SHARP

LC-20SD5E
LC-20SD5S

LCD COLOUR TELEVISION
LCD-FARBFERNSEHGERÄT
TÉLÉVISION COULEUR À ÉCRAN À CRISTAUX LIQUIDES (LCD)
TELEVISORE A COLORI LCD
LCD-KLEURENTELEVISIE
TELEVISIÓN EN COLOR LCD

OPERATION MANUAL
BEDIENUNGSANLEITUNG
MODE D'EMPLOI
MANUALE DI ISTRUZIONI
GEBRUIKSAANWIJZING
MANUAL DE MANEJO

ENGLISH
DEUTSCH
FRANÇAIS
ITALIANO
NEDERLANDS
ESPAÑOL

AQUOS

DVB Digital Video Broadcasting

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SPECIAL NOTE FOR USERS IN THE UK

The mains lead of this product is fitted with a non-rewireable (moulded) plug incorporating a 3A fuse. Should the fuse need to be replaced, a BSI or ASTA approved BS 1362 fuse marked ♆ or ASTA and of the same rating as above, which is also indicated on the pin face of the plug, must be used.

Always refit the fuse cover after replacing the fuse. Never use the plug without the fuse cover fitted.

In the unlikely event of the socket outlet in your home not being compatible with the plug supplied, cut off the mains plug and fit an appropriate type.

DANGER: The fuse from the cut-off plug should be removed and the cut-off plug destroyed immediately and disposed of in a safe manner.

Under no circumstances should the cut-off plug be inserted elsewhere into a 13A socket outlet, as a serious electric shock may occur.

To fit an appropriate plug to the mains lead, follow the instructions below:

IMPORTANT: The wires in the mains lead are coloured in accordance with the following code:

Blue : Neutral Brown : Live

As the colours of the wires in the mains lead of this product may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows;

- The wire which is coloured blue must be connected to the plug terminal which is marked N or coloured black.
- The wire which is coloured brown must be connected to the plug terminal which is marked L or coloured red.

Ensure that neither the brown nor the blue wire is connected to the earth terminal in your three-pin plug.

Before replacing the plug cover make sure that:

- If the new fitted plug contains a fuse, its value is the same as that removed from the cut-off plug.
- The cord grip is clamped over the sheath of the mains lead, and not simply over the lead wires.

IF YOU HAVE ANY DOUBT, CONSULT A QUALIFIED ELECTRICIAN.

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OPERATION MANUAL

ENGLISH

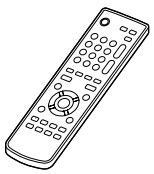
- The illustrations and on-screen displays in this operation manual are for explanation purposes and may vary slightly from the actual operations.
- The factory preset PIN (Personal Identification Number) for DTV is “0000”.

Contents

Supplied accessories **1**
Removing the covering sheet 1
Dear SHARP customer **2**
Important Safety Precautions **2**
Trademarks **2**
Quick guide **3**
Setting the TV **3**
How to Fix the Cables 3
How to Prevent the LCD TV Set from Falling Over 3
Inserting the batteries 4
Using the remote control unit 4
Cautions regarding the remote control unit 4
Remote control unit 5
TV (Front/Top/Side view) 6
Connecting External Devices 7
Turning on the power 8
Standby mode 8
Initial auto installation 8
Menu operations **9**
Menu operation buttons 9
On-Screen Display 9
Common operations 10
Picture menu 10
Picture adjustments 10
Picture Mode Settings 11
Sound menu 11
Sound adjustments 11
Sound Mode Settings 11
Setup menu 12
Setup Settings 12
Programmes 13
Wide mode 14
Features menu 14
Features Settings 14
Child lock 15
Useful features **16**
Still image 16
Using the Programme Table 16
Teletext function 16
DTV menu operations **17**
DTV menu operation buttons 17
DTV On-Screen Display 17
DTV common operations 17
About using the character set screen 18
Language Setup 18
Channel Organizer 18
Installation 20
Auto Scan 20
Manual Scan 20
Carrier Setup 21
System Configuration 21
Display Setup 21
Password Setup (Parental Lock) 22
Technical Information 22
Version 22
Software upgrade 22
Common Interface 23
Inserting a CA card 23
Useful features (DTV) **24**
About EPG 24
Using the EPG 24
Using the EPG Timer 24
Using the digital channel list 25
Viewing a service banner 25
Using the multi audio function 26
Displaying subtitles 26
Using the Digital Service (UK only) 26
Appendix **27**
PC compatibility chart 27
RS-232C port specifications 27
Troubleshooting 29
Specifications 30
End of Life Disposal **31**

Supplied accessories

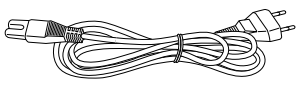
Remote control unit (×1)



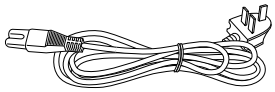
Page 4 and 5

AC cord (×2)

(For Europe, except U.K. and Eire)

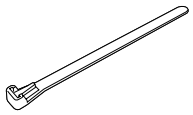


(For U.K. and Eire)



Page 3

Cable tie (×1)



Page 3

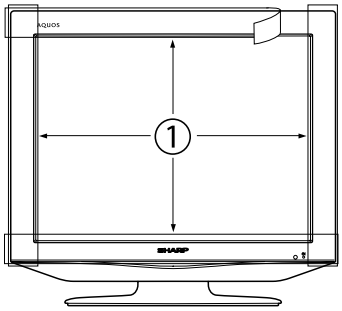
Cloth (×1)

Page 2

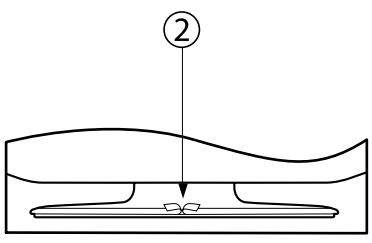
- “AA” size battery (×2) .....Page 4
- Operation manual (This publication)

Removing the covering sheet

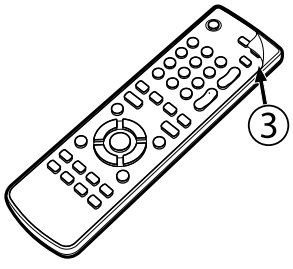
For protection, sheets ①, ② and ③ are covering the product. Please remove these sheets before use.



Remove each sheet.



Tear from the cut point and remove the sheet by peeling it back to either side.



There is a protective film covering the face of the remote control. Please remove this film before use.

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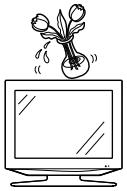
Dear SHARP customer

Thank you for your purchase of the SHARP LCD colour TV product. To ensure safety and many years of troublefree operation of your product, please read the Important Safety Precautions carefully before using this product.

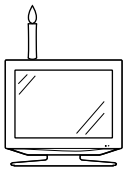
Important Safety Precautions

- Cleaning—Unplug the AC cord from the AC outlet before cleaning the product. Use a damp cloth to clean the product. Do not use liquid cleaners or aerosol cleaners.
- Water and moisture—Do not use the product near water, such as bathtub, washbasin, kitchen sink, laundry tub, swimming pool or in a wet basement.
- Do not place vases or any other water-filled containers on this product.
  The water may spill onto the product causing fire or electric shock.



- Stand—Do not place the product on an unstable cart, stand, tripod or table. Doing so can cause the product to fall, resulting in serious personal injuries as well as damage to the product. Use only a cart, stand, tripod, bracket or table recommended by the manufacturer or sold with the product. When mounting the product on a wall, be sure to follow the manufacturer's instructions. Use only the mounting hardware recommended by the manufacturer.
- When relocating the product placed on a cart, it must be moved with utmost care. Sudden stops, excessive force and uneven floor surface can cause the product to fall from the cart.

- Ventilation—The vents and other openings in the cabinet are designed for ventilation. Do not cover or block these vents and openings since insufficient ventilation can cause overheating and/or shorten the life of the product. Do not place the product on a bed, sofa, rug or other similar surface, since they can block ventilation openings. This product is not designed for built-in installation; do not place the product in an enclosed place such as a bookcase or rack, unless proper ventilation is provided or the manufacturer's instructions are followed.
- The LCD panel used in this product is made of glass. Therefore, it can break when the product is dropped or impact applied. If the LCD panel is broken, be careful not to be injured by broken glass.
- Heat sources—Keep the product away from heat sources such as radiators, heaters, stoves and other heat generating products (including amplifiers).
- To prevent fire, never place any type of candle or open flame on the top or near the TV set.
- To prevent fire or shock hazard, do not place the AC cord under the TV set or other heavy items.
- Do not display a still picture for a long time, as this could cause an afterimage to remain.
- There is power consumption always if main plug is connected.



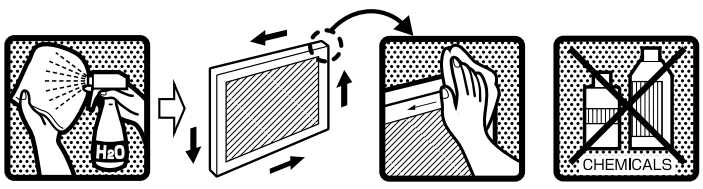
The LCD panel is a very high technology product, giving you fine picture details.
Due to the very large number of pixels, occasionally a few non-active pixels may appear on the screen as a fixed point of blue, green or red.
This is within product specifications and does not constitute a fault.

Precautions when transporting the TV

When moving the TV, it should always be carried by two people, using both hands, be careful not to apply pressure to the display.

Cleaning tips

Make sure to brush off the dirt on the cloth before cleaning the cabinet. Make sure to spray water 4-6 times onto the cloth for this purpose before cleaning the cabinet wiping in one direction. After cleaning, wipe the cabinet to remove any moisture.



Trademarks

- The DVB logo is the registered trademark of the Digital Video Broadcasting-DVB-Project.

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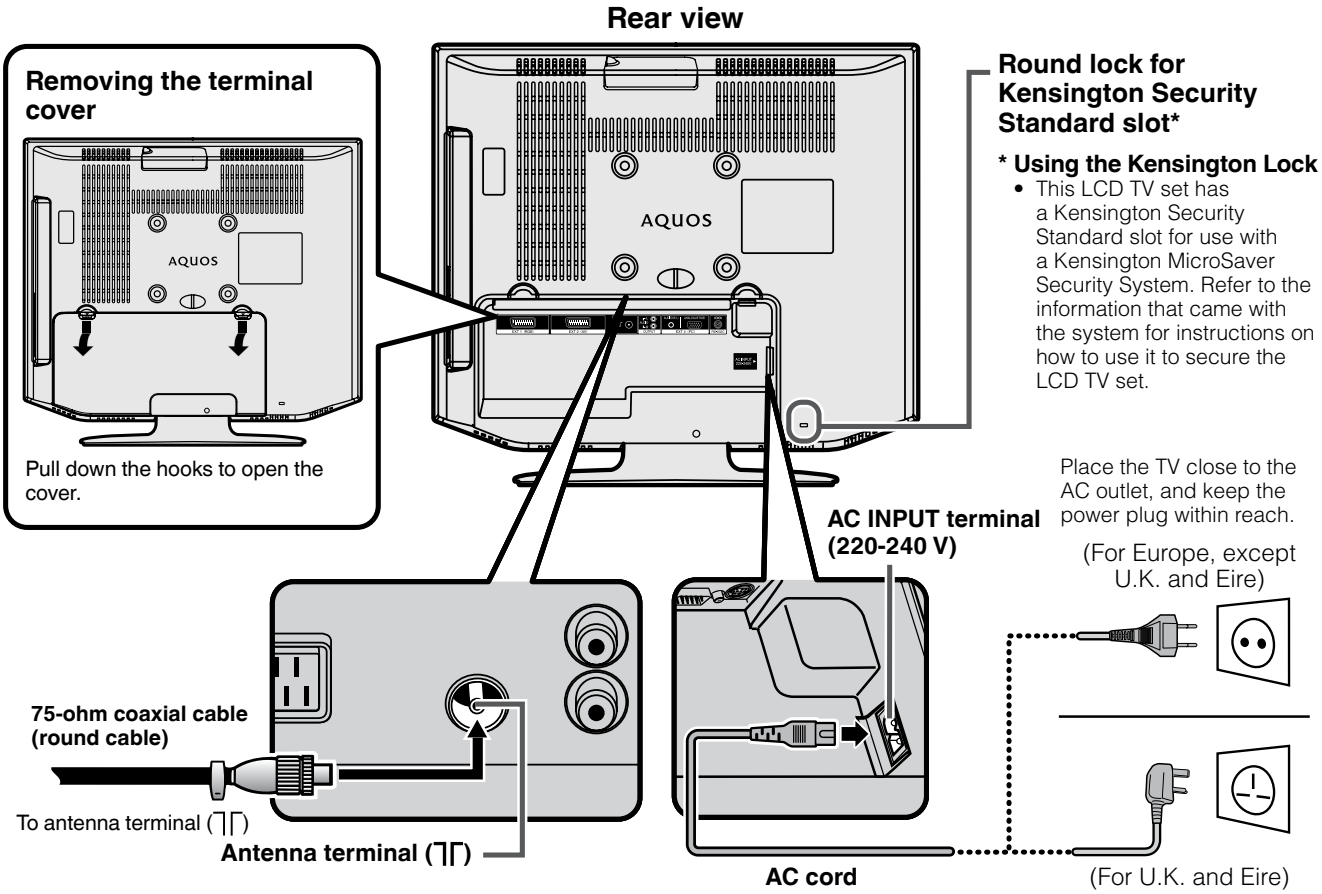
Quick guide

Setting the TV

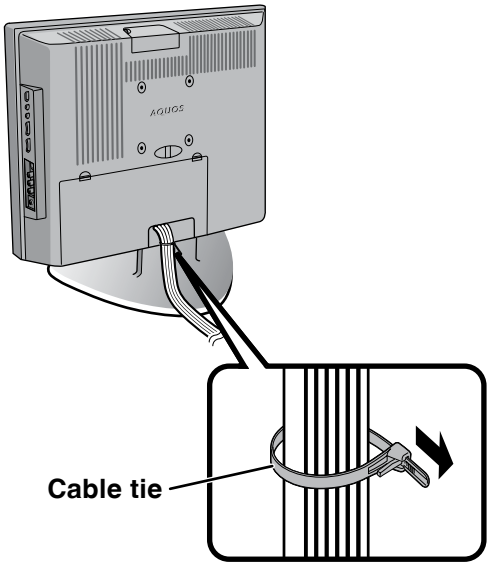

Rear view
Removing the terminal cover
AQUOS
Pull down the hooks to open the cover.
AQUOS
Round lock for Kensington Security Standard slot*
* Using the Kensington Lock
• This LCD TV set has a Kensington Security Standard slot for use with a Kensington MicroSaver Security System. Refer to the information that came with the system for instructions on how to use it to secure the LCD TV set.
AC INPUT terminal (220-240 V)
Place the TV close to the AC outlet, and keep the power plug within reach.
(For Europe, except U.K. and Eire)
75-ohm coaxial cable (round cable)
To antenna terminal (┐┌)
Antenna terminal (┐┌)
AC cord
(For U.K. and Eire)

NOTE

- Unplug the AC cord from the LCD TV set and power outlet when the LCD TV set is not to be used for a long period of time.
- Please ensure your 75-ohm coaxial cable is fitted with a DIN 45325 (IEC169-2) coaxial plug and plug it into the antenna terminal at the rear of the LCD TV set (antenna cable not supplied).

How to Fix the Cables

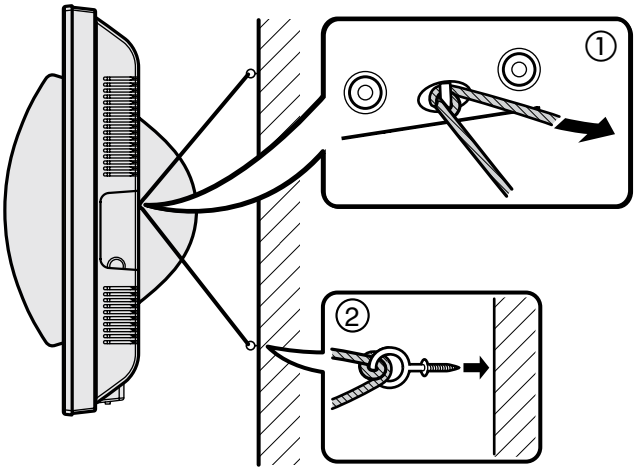
Secure cables and cords with the supplied cable tie so that they do not get caught when mounting the cover.



How to Prevent the LCD TV Set from Falling Over

To prevent the LCD TV set from falling over in case of earthquakes and so on, strap it onto the wall by threading one end of the string through the hook on the LCD TV set (①) and fastening the LCD TV set with the string attached to the hook on the wall or the post, etc. (②). (An example of strapping the LCD TV set onto the wall is shown below.)

- The string and hook are commercially available.



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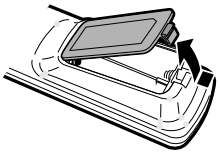
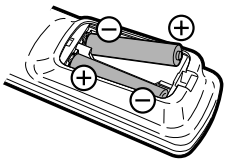
Inserting the batteries

Before using the TV for the first time, insert two “AA” size batteries (supplied). When the batteries become depleted and the remote control unit fails to operate, replace the batteries with new “AA” size batteries.

1 Open the battery cover.

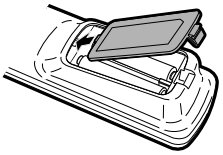


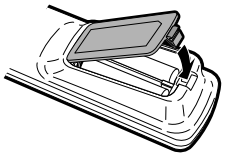
2 Insert two supplied “AA” size batteries.



- Place batteries with their terminals corresponding to the (+) and (–) indications in the battery compartment.

3 Close the battery cover.





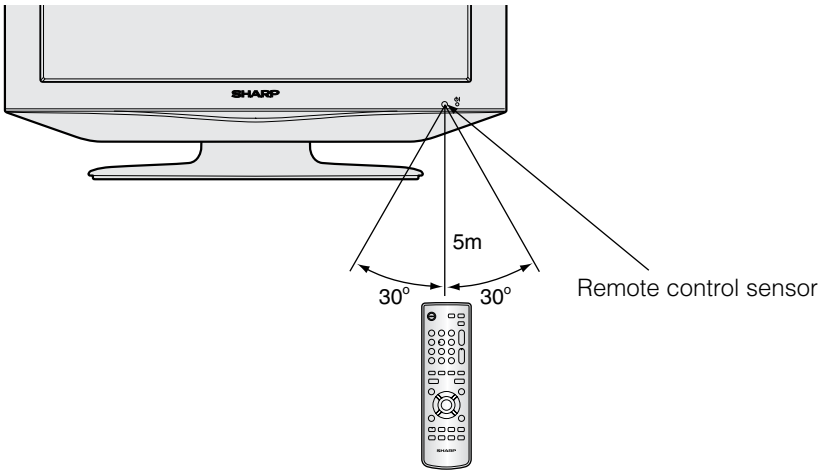
CAUTION

Improper use of batteries can result in chemical leakage or explosion. Be sure to follow the instructions below.

- Do not mix batteries of different types. Different types of batteries have different characteristics.
- Do not mix old and new batteries. Mixing old and new batteries can shorten the life of new batteries or cause chemical leakage in old batteries.
- Remove batteries as soon as they have worn out. Chemicals that leak from batteries can cause a rash. If you find any chemical leakage, wipe thoroughly with a cloth.
- The batteries supplied with this product may have a shorter life expectancy due to storage conditions.
- If you will not be using the remote control unit for an extended period of time, remove the batteries from it.

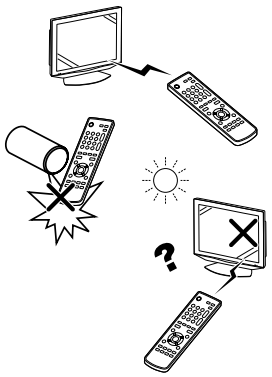
Using the remote control unit

Use the remote control unit by pointing it towards the remote control sensor. Objects between the remote control unit and sensor may prevent proper operation.



Cautions regarding the remote control unit

- Do not expose the remote control unit to shock.
  In addition, do not expose the remote control unit to liquids, and do not place in an area with high humidity.
- Do not install or place the remote control unit under direct sunlight. The heat may cause deformation of the unit.
- The remote control unit may not work properly if the remote control sensor of the TV is under direct sunlight or strong lighting. In such case, change the angle of the lighting or TV, or operate the remote control unit closer to the remote control sensor.



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Remote control unit

1 **(Standby/On)**
Enter standby mode or turn on the power. (See page 8.)

2 **DTV/RADIO***
DTV: Switch between RADIO and DTV mode.

3 **DTV/TV**
Switch between analogue TV and DTV mode.

4 **(Mute)**
Switch the sound on and off.

5 **0–9**
Set the channel in TV and DTV mode.
Set the page in Teletext mode.

6 **(Flashback)**
Press to return to the previous image in normal viewing mode.

7 **(WIDE MODE)**
Select the wide mode.
(See page 14.)

8 **(Sound mode)**
Select the sound multiplex mode.
(See below.)

9 **EPG**
DTV: To display EPG (Electronic Programme Guide) screen.

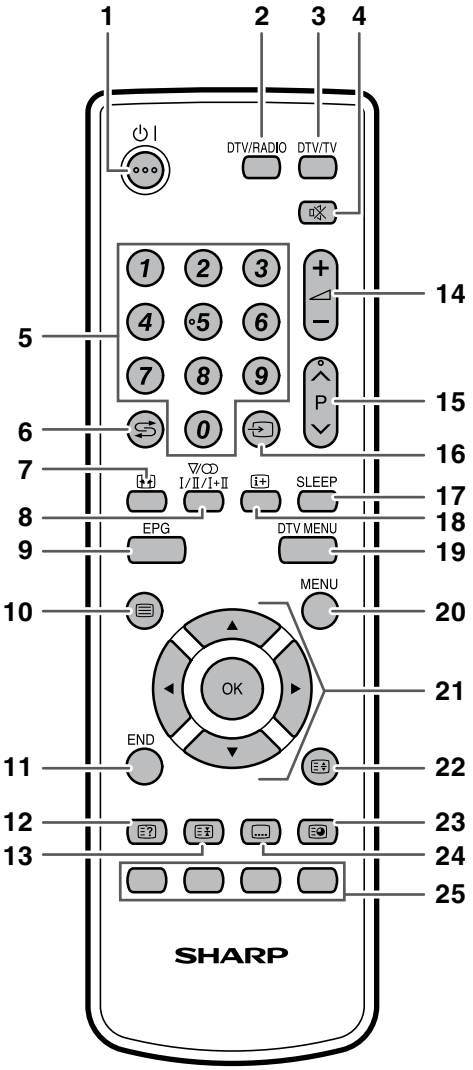
10 **(Teletext)**
Displays the Teletext mode screen.
(See page 16.)
DTV: Select DTV data broadcasting and TELETEXT.

11 **END**
Exit the menu screen.

12 **(Reveal hidden Teletext)**
TELETEXT: (See page 16.)

13 **(Freeze/Hold)**
TV/DTV: You can freeze a motion picture on the screen.
TELETEXT: (See page 16.)

14 **(+/–) (Volume)**
(+) Increase the volume.
(–) Decrease the volume



15 **P (∧/∨)**
TV/DTV: Select the channel.
External: Switch to TV or DTV input mode.
Teletext: Move to the next/previous page.

16 **(INPUT SOURCE)**
Select an input source.
(See below.)

17 **SLEEP**
Set the sleep timer in units of 30 min. up to max. 2 hr.

18 **(Display information)**
Display various information; channel number, sleep timer, etc.
(See pages 24 and 25.)

19 **DTV MENU**
DTV: Display DTV Menu screen.

20 **MENU**
Display the MENU screen.
(See page 9.)

21 **▲/▼/◄/► (Cursor)**
Select a desired item on the setting screen.
OK
Execute a command within the menu screen.
DTV: Display the Channel list.

22 **(Top/Bottom/Full)**
Set the area of magnification in Teletext mode. (See page 16.)

23 **(Subpage)**
(See page 16.)

24 **(Subtitle for Teletext)**
TELETEXT: To turn the subtitles on and off. (See page 16.)
DTV: Display the subtitle selection screen. (See page 26.)

25 **Colour (Red/Green/Yellow/Blue)**
TELETEXT: Select a page.
(See page 16.)
DTV: The coloured buttons are used to select correspondingly to the coloured items in the menu screen.

* If “Sweden” was selected on the “First installation (Country)” screen, you can switch between RADIO, DATA and DTV modes.

Using ▽/◯◯ I/II/I+II on the remote control unit

DTV mode:
Press ▽/◯◯ I/II/I+II to open the multi audio screen. (See page 26.)

Analogue TV mode:
Each time you press ▽/◯◯ I/II/I+II, the mode switches as illustrated in the following tables.

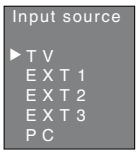
Broadcast	Stereo	Bilingual	Monaural
NICAM	Stereo ↕ Mono	Sound 1 → Sound 2 → Mono ← Sound 1+2 ←	Nicam ↕ Mono
A2 Stereo	Stereo ↕ Mono	Sound 1 → Sound 2 → Mono ← Sound 1+2 ←	Mono

NOTE
- When no signal is input, the sound mode will display “Mono”.

Setting the input source

1 Press (INPUT SOURCE) on the remote control unit or TV.
- The “Input source” menu displays.

2 Press ▲/▼ to select the desired source, and then press **OK**.



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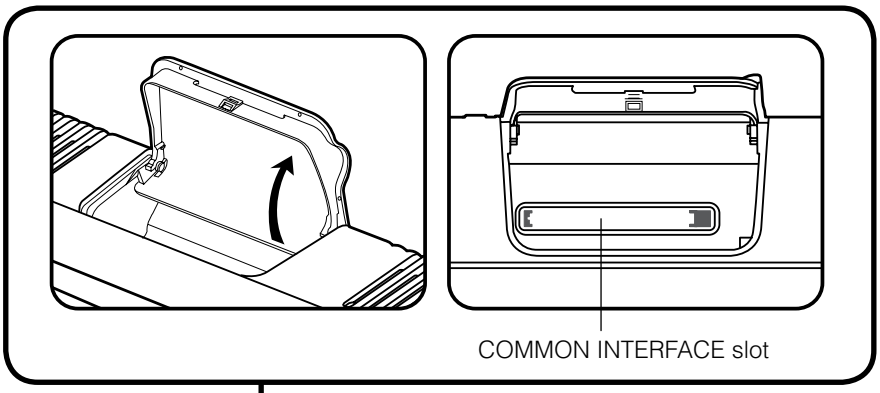
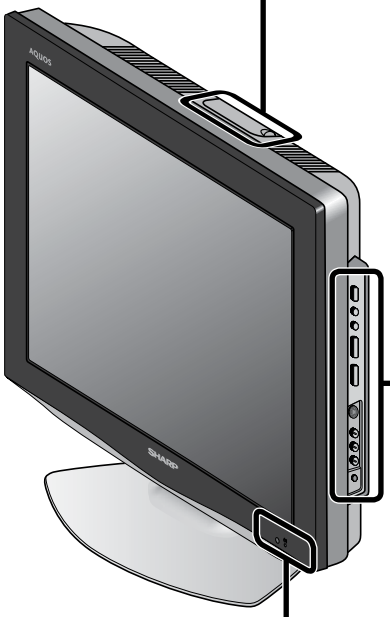
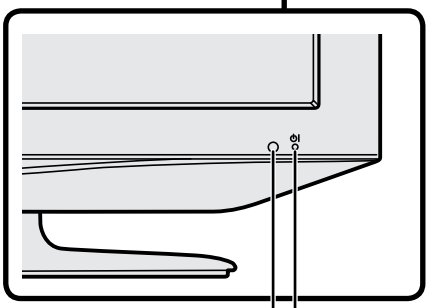
TV (Front/Top/Side view)







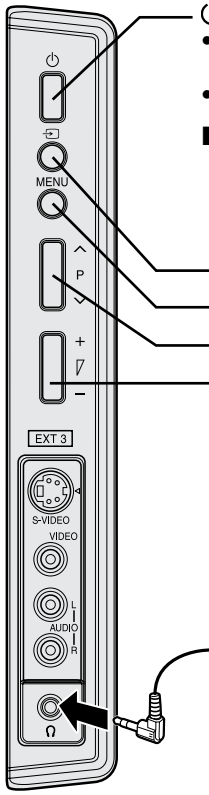
Remote sensor

STANDBY/ON indicator
The STANDBY/ON indicator lights up green when the power is on, and red when in the standby mode (the indicator will not light when the main power is off).

Control panel

■ Using the control panel of the main unit

- **(Input)**, **P (∧)/(∨) (Channel)**, **(+)/(–) (Volume)** and **MENU** on the control panel of the main unit have the same functions as the same buttons on the remote control. Fundamentally, this operation manual provides a description based on operation using the remote control.

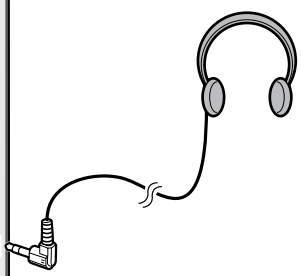


(MAIN POWER)
- The STANDBY/ON indicator instantly changes from red to green and the LCD TV set is turned on.
- To turn off the main power, press again.

■ Operating the menu with the control panel (See page 9.)

Button operations on the control panel correspond to the ones on the remote control as shown below.

(Input)	**OK** on the remote control
MENU	**MENU** on the remote control
P (∧)/(∨) (Channel)	▲/▼ on the remote control
(+)/(–) (Volume)	◄/► on the remote control



Headphones
Plug the headphone mini-plug into the headphone jack.
Adjust the sound volume using **(+)/(–)** on the remote control.

On-screen display

NOTE
- Headphones are not included in the supplied accessories.
- No sound is heard from the main unit speakers when a headphone mini-plug is connected into the headphone jack.
- Do not set the volume at a high level. Hearing experts advise against extended listening at high volume levels.

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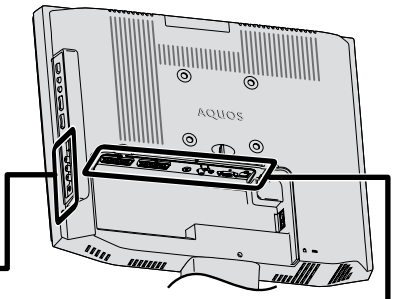
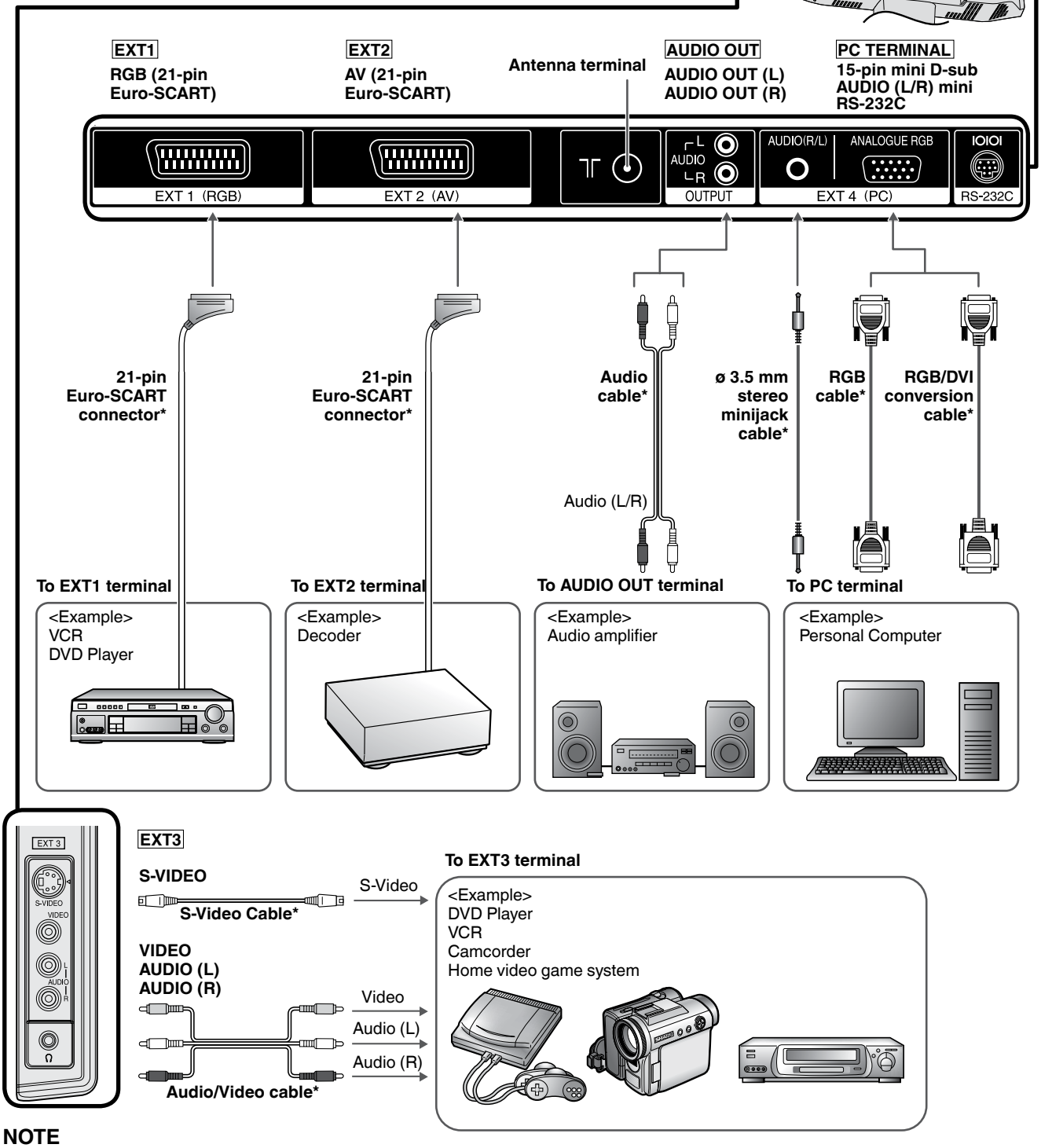
Connecting External Devices

You can enjoy picture and sound by connecting devices, such as a VCR or home video game system, to the terminals located on the rear of the LCD TV set.
When connecting an external device, turn off the power of the LCD TV set first to prevent any possible damage.





NOTE

- The cables marked with * are commercially available items.
- For more information about external device connections, see the operation manuals of your external devices.
- Make sure that the corresponding cables are connected to each terminal. Connecting other cables may result in a malfunction.
- EXT3 has two terminals, VIDEO and S-VIDEO terminals. If your external device has an S-VIDEO terminal, S-VIDEO connection is recommended. S-VIDEO provides a finer, more detailed picture. If both terminals are connected, S-VIDEO terminal takes a priority.
- The PC input terminals are DDC1/2B-compatible.
- Refer to page 27 for a list of PC signals compatible with the TV.
- Macintosh adaptor may be required for use for some Macintosh computers.
- When connecting to a PC, the correct input signal type is automatically detected.

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Turning on the power

Press ⏻ on the TV.
- The ⏻/| indicator on the TV changes from red to green.

Standby mode

Press ⏻/| on the remote control unit when the TV is on.
- The TV enters standby mode and the image on the screen disappears.
- The ⏻/| indicator on the TV changes from green to red.
- You can turn the TV on by pressing ⏻/| on the remote control unit from standby mode.
- Weak electric power is still consumed even when ⏻/| is turned off.
- To completely turn off the TV, press ⏻ on the TV.

Display status indicator

Off	Power off
Red	The TV is in standby mode.
Green	The TV is on.
Orange	The TV screen is off and a Timer event has begun.

NOTE
- If you are not going to use this TV for a long period of time, be sure to remove the AC cord from the power outlet.
- In DTV input mode, if the power is turned off immediately after a setting change from the menu screen, the new setting or channel information may not be memorised.

Initial auto installation

When the TV powers on for the first time after purchase, the initial auto installation is invoked. You can automatically set language, country and channels in successive operations.

NOTE
- The initial auto installation functions only once. If the initial auto installation is not completed, (ex: When the power shut down, etc.), try First Installation from the Setup menu. (See page 12.)
- The initial auto installation can be stopped by pressing **MENU** or **END**.

1 Setting the on-screen display language
① Press ▲/▼/◄/► to select the desired language listed from “First installation (Language)”.
② Press **OK** to enter the setting.

2 Setting your country or area
Press ◄/► to select your country or area listed from “First installation (Country)”.
- You can change “Colour system” and “Sound system” only when “Other count.” is selected in “Country”.

3 Setting the Automatic search
① Press ▲/▼ to select “Start search”.
② Press **OK** to enter the setting.
- The programme auto search starts at the same time.

You do not need to do anything during the auto search.

⬇

The setup menu disappears and you can watch the programme on channel 1.

NOTE
- With “Automatic search” of “First installation”, digital broadcasts are scanned after scanning analogue broadcasts. If you want to operate the digital mode first, press **END** and then press **DTV/TV**. Follow the procedures in “Installation” on page 20.
- You can select a language from the Setup menu. Select from 13 languages. (English, Spanish, German, French, Italian, Swedish, Dutch, Russian, Portuguese, Turkish, Greek, Finnish, Polish)
- You can select a country from the Setup menu. Select from 16 countries. (Austria, Belgium, France, Germany, Netherlands, Italy, Spain, Switzerland, UK, Poland, Russia, Czech Republic, Hungary, Slovenia, Sweden, Other country)
- If you want to reconfigure the country setting, for instance after moving to another country, conduct “First installation” from the Analogue Menu again.

If you select the country as “Germany” in the “First installation” of the Setup menu, the tuner works as follows.
- After “Auto Scan” is complete, carrier names are sorted in the same order of the “Channel Sort Table List (TV, Radio)”.
- Sorting is accomplished by checking whether the service name correspond to the “Received Service Name” of the “Channel Sort Table List”.
- Received carrier names are not changed to match the “Short Service Name”.
- The channel position moves up, if the service is not found after the “Auto Scan” is finished.
- A carrier that is not in the “Channel Sort Table List” will be positioned at the bottom of the sorted list.
- If the same service name is duplicated, the tuner selects the stronger signal, sorts it and places it in the list. The weaker signal listing is placed at the bottom of the list.
- TV and Radio presetting is done separately so LCN numbers are not duplicated between the two.

If you select the Country as “Sweden” in the “First installation” of the Setup menu, tuner works as follows
When there is a Channel List in the data after Auto Scan, Channel Type Selection Menu will be displayed and available to set Channel List Type.
Select the Channel List Type by pressing ◄/► and press **OK**.

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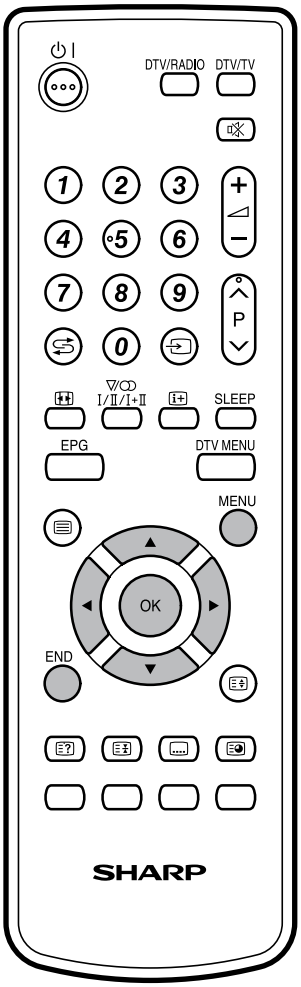
Menu operations

Menu operation buttons

Use the following buttons on the remote control unit to operate the menu.



MENU: Press to open the menu screen or return to the previous step.

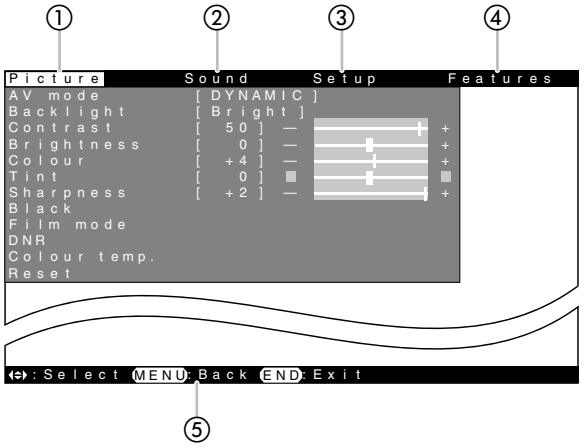
▲/▼/◄/►: Press to select a desired item on the screen or adjust a selected item.

OK: Press to complete the setting.

END: Press to close the menu screen.

On-Screen Display

Example



① **Picture menu**
- To adjust the picture settings.

② **Sound menu**
- To adjust the audio settings.

③ **Setup menu**
- To set up TV channels, select the language displayed on-screen and other settings.

④ **Features menu**
- To customize various features.

⑤ **Navigation buttons**
- To navigate within the Menu screen.

NOTE
- The screens in the operation manual are for explanation purposes (some are enlarged, others cropped) and may vary slightly from the actual screens.

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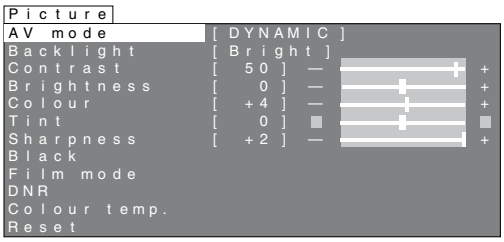
Common operations

Menu Operation: A

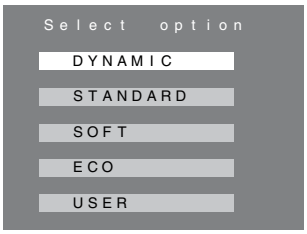
① Press **MENU** and the MENU screen displays.

② Press ◄/► to select the desired menu.

③ Press ▲/▼ to select the desired menu item, and then press **OK** (Example: AV mode, Film mode, etc.).



④ Press ▲/▼ to select the desired item, and then press **OK**.



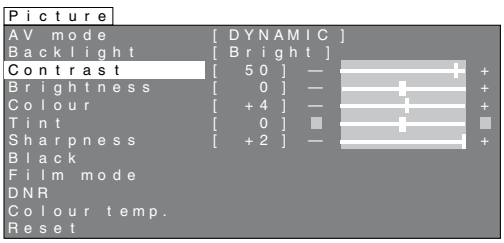
Menu Operation: B

① Press **MENU** and the MENU screen displays.

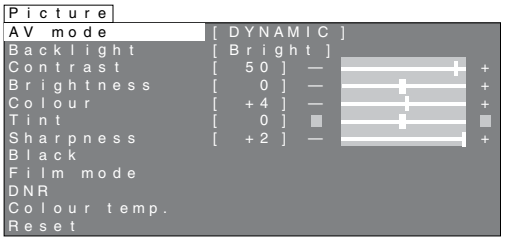
② Press ◄/► to select the desired menu.

③ Press ▲/▼ to select the desired menu item (Example: Contrast, Brightness, etc.).

④ Press ◄/► to adjust the item to your desired position.



Picture menu



Picture adjustments

Menu Operation: B (page 10)
Adjust the picture to your preference with the following picture settings.

Adjustment items for AV source

Selectable items	◄ button	► button
Contrast	For less contrast	For more contrast
Brightness	For less brightness	For more brightness
Colour	For less colour intensity	For more colour intensity
Tint	Skin tones become purplish	Skin tones become greenish
Sharpness	For less sharpness	For more sharpness

Adjustment items for PC source

Selectable items	Description
Contrast	To adjust the contrast of PC Monitor screen.
Brightness	To adjust the brightness of PC Monitor screen.
V-Pos.	To adjust the vertical position of the image on the PC Monitor screen. Each video standard will require a different value for this setting.
H-Pos.	To adjust the horizontal position of the image on the PC Monitor screen. Each video standard will require a different value for this setting.
Clock	To minimize any vertical bars or stripes visible on the screen background.
Phase	This must be adjusted after the frequency has been set to optimize picture quality.

- Select “Reset” to reset all adjustment items to the factory preset values.

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Picture Mode Settings

Menu Operation: A (page 10)
You can make various picture mode settings.

Selectable items		Description
AV mode	**DYNAMIC*1**	For a clear-cut image emphasising high contrast for sports viewing.
	STANDARD*1	For a highly defined image in a normally bright room.
	SOFT*1	Creates a softer image.
	ECO*1	Reduces power consumption.
	USER	Allows the user to customise settings as desired. You can set the mode for each input source.
Backlight	Adjust the screen brightness.	
	Bright	Maximum brightness.
	Medium	Suitable for viewing in well-lit areas. Saves energy.
	Dark	Sufficiently bright when viewing in dim areas.
Black	**On**	For easier viewing, change the viewing depth by selecting a level for automatically adjusting the dark portion of an image.
	Off	
Film mode	**On**	Automatically detect a film-based source (originally encoded at 24/25 frames/second, depending on the vertical frequency), analyses it then recreates each still film frame for high-definition picture quality.
	Off	
DNR	**High**	Produce a clearer image.
	Middle	
	Low	
	Off	
Colour temp.*2	Adjust the colour temperature to give the best white image.	
	High	White with bluish tone
	Middle	Natural tone
	Low	White with reddish tone

*1 You can adjust the factory preset parameters given in “STANDARD”, “SOFT”, “ECO” and “DYNAMIC”. The parameters chosen affect each of the input sources.
*2 Colour temp. setting also can be made in PC mode.

- Select “Reset” to reset each adjustment item in AV mode to the factory preset values.

Sound menu

Sound adjustments

Menu Operation: B (page 10)
You can adjust the sound quality to your preference with the following settings.

Selectable items	◄ button	► button
Treble	For weaker treble	For stronger treble
Bass	For weaker bass	For stronger bass
Balance	Decrease audio from the right speaker	Decrease audio from the left speaker

- Select “Reset” to reset all adjustment items to the factory preset values.

Sound Mode Settings

Menu Operation: A (page 10)

Selectable items		Description
Loudsp.*1 sound	**Stereo**	This function changes the sound mode. (See page 5.)
	Mono	
	Sound 1	
	Sound 2	
	Sound 1+2	
	Nicam	
Auto vol.	**On**	Different sound sources, fairly often do not have the same volume level, for example the changing from movie to the advertisements. The Automatic Volume Control (Auto vol.) solves this problem and equalises the volume levels.
	Off	
Clear voice	**On**	This function emphasises speech voice against the background noise for more intelligibility. It is not recommended for music sources.
	Off	
Sound wide	**On**	Sound wide function allows you to enjoy realistic “live” sound.
	Off	

*1 This item is visible only when TV is TV mode.

- Select “Reset” to reset all adjustment items to the factory preset values.

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For the “Loudsp. sound” setting
- The sound output modes differ depending on whether or not a NICAM or A2 stereo signal is received. (See page 5.)

For the “Auto vol.” setting
- Different sound sources, fairly often do not have the same volume level, for example the changing from movie to the advertisements. The Automatic Volume Control (Auto vol.) solves this problem and equalises the volume levels.

For the “Clear voice” setting
- This function emphasises speech voice against the background noise for more intelligibility. It is not recommended for music sources.

Setup menu

Setup Settings

Menu Operation: A (page 10)

Selectable items	Choice/Description		
Programmes[*1][*2]	See page 13.		
First installation[*1][*2]	See page 8.		
Wide mode	See page 14.		
EXT connections	It is possible to manually adjust various settings for connections with external devices on the “EXT connections” screen. Select the appropriate signal type and colour standard for the signals from the video equipment connected to the EXT1, EXT2 or EXT3 terminal.		
	EXT1 EXT2 EXT3 (Y/C) EXT3 (CVBS)	Signal type[*3]	Press ◄/► to select option. Auto, CVBS, RGB, Y/C: To select the signal type of external equipment.
		Colour system	Press ◄/► to select option. Auto, PAL, SECAM, NTSC4.43, NTSC3.58, PAL60
Language	The language for the on-screen display can be selected from English, Spanish, German, French, Italian, Swedish, Dutch, Russian, Portuguese, Turkish, Greek, Finnish, and Polish.		

[*1] “Programmes” or “First installation” can be set when the TV is TV mode.
[*2] If you have defined a PIN on the “Child lock” screen, the PIN input screen is displayed. Input the four-digit PIN (**0–9**) first. (See page 15.)
[*3] This item is visible only when “EXT1” or “EXT2” is selected for the “EXT connections” setting.

NOTE
EXT connections:
- If no (colour) image is displayed, try to change to a different signal type.
- Switching between AV input signals may be slow, depending on the settings in “Colour system”. If you want to speed up signal switching, select “Auto” in “Colour system” to the current reception colour system.

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Programmes

TV only

This section describes how to set up analogue TV channels manually.

1 Press **MENU** to display the Menu screen.

2 Press ◄/► to select “Setup”.

3 Press ▲/▼ to select “Programmes”, and press **OK**.

4 Press ▲/▼ to select the desired item, and press **OK**.

5 Press ▲/▼/◄/► to select the desired option, and press **OK**.

6 Press **END** to exit.

Automatic search

Perform the procedure above to search for and store new TV programmes after the First Installation routine.

Selectable items	Choice/Description
Country	Select your country or area from the displayed items.
Colour system	Auto, PAL, SECAM
Sound system	Auto, B/G, I, D/K, L/L’
Start search	Start Automatic search.

NOTE

- You can change “Colour system” and “Sound system” only when “Other count.” is selected in “Country”.
- See page 8 for details on the search process.

Manual adjustment

Individual settings of programmes can be adjusted.

Selectable items	Choice/ Value range	Description
Channel	0–99	The channel changes to the higher or lower channel.
Frequency	42.00 – 863.25 (MHz)	Receivable frequencies depending on TV norm, installation site, and range.
Colour system	Auto, PAL, SECAM	Colour norm
Sound system	Auto, B/G, I, D/K, L/L’	TV norm
Name	Alphabets, numerical values (e.g. t, 7, etc.)	Programme name (up to 5 characters). Press ◄/► to select which character will be changed. Press ▲/▼ to change the selected character. Press **OK** to accept the input name.
Skip	On ⟷ Off	The channel numbers set with Skip are indicated in gray.
Sort	Press ▲/▼/◄/► to select the desired programme, and press **OK** to sort. • When **OK** is pressed, the Move mode is activated. Press ▲/▼ to move the currently marked programme to the desired programme position. When the channel has moved to the desired position, all the preceding/subsequent channel position will go up/down. Press **OK** to exit the Move mode.	
Erase	Press ▲/▼/◄/► to select the programme to be erased, and press **OK**. • All the subsequent programmes move up.	

NOTE

- Depending on the settings in the colour system of the channels, switching between channels may be slow. If you want to speed up channel switching, switch “Auto” in “Colour system” to the current reception system (PAL or SECAM).

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Wide mode

Menu Operation: A (page 10)
You can select the picture size. Selectable picture size varies with the type of signal received.

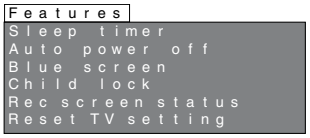
Selectable items	Description
Auto	The optimum Wide mode is automatically chosen for every broadcast, even if broadcast signal format will be changed, and VCR or DVD containing the WSS information.
4:3	For 4:3 “standard” pictures. For 16:9 signals the picture will expand to full size format. With some programmes may appear on the top and bottom further on black bars.
16:9	For 16:9 letterbox pictures. Bars appear on the top and bottom.

Manual Selection

1 Press ⊞.
- Each time pressed this button, you can change the screen format.

NOTE
- If the signal contains no WSS information, Auto Selection will not function even when the screen format is set to “Auto”.

Features menu



Features Settings

Menu Operation: A (page 10)

Selectable items		Description
Power management[*1]	**On**	• If there is no signal input for 8 minutes, the TV enters the standby mode. • Even if you start using the PC and the signal inputs again, the TV stays in standby mode. • The TV turns on again by pressing ⏻/I on the remote control unit. (See page 8.)
	Off	
Sleep timer[*2]	**Off**	You can set “Sleep timer” to automatically turn off the LCD TV set.
	30 min	
	60 min	
	90 min	
	120 min	
Auto power off	**On**	You can set the power to automatically turn off if there is no signal for 5 minutes.
	Off	
Blue screen	**On**	You can set the TV to automatically change to a blue screen and mute the sound if the signal is weak or absent when TV is TV mode.
	Off	
Child lock	See page 15.	
Rec screen status	**On**	This function determines whether the TV screen switches on or not when a programmed timer setting begins.
	Off	
Reset TV setting[*3]	**Yes**	If you select “Yes”, the TV turns off. All parameters settings are reset to the factory settings and tuning data will be lost.
	No	

[*1] This item is visible only when TV is PC mode.
[*2] The status display appears by pressing **SLEEP**.
[*3] If you have defined a PIN on the “Child lock” screen, the PIN input screen is displayed. Input the four-digit PIN (**0–9**) first. (See page 15.)

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Child lock

Important:
- Please refer to page 31 for “IMPORTANT NOTE ON DISENGAGING ADVANCED CHILD LOCK (TV)”.

The Child lock function blocks the viewing of any channels and prevents access to “Programmes”, “First instalation”, and “Reset TV setting” screens. To use this function, you need to define your PIN (Personal Identification Number) first.

[1] Defining a PIN

1 Press **MENU** to display the Menu screen.

2 Press ◄/► to select “Features”.

3 Press ▲/▼ to select “Child lock”, and press **OK** to display the PIN input screen.

4 Input the desired four-digit PIN (e.g. 1234) with **0–9**.

NOTE
- Be sure to make a note of your PIN before pressing **OK**.
- The PIN will not be set if **MENU** or **END** is pressed before the fourth digit has been input.

5 Press **OK** to accept the input PIN.

6 Press **END** to exit.

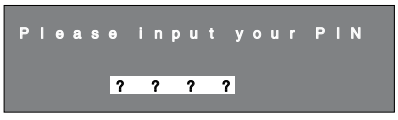
[2] Setting a Child Lock

- There are two different ways of activating a Child lock:
  1. General child lock for all programmes
  2. Programme-position-related child lock

To set a Child Lock for all programmes

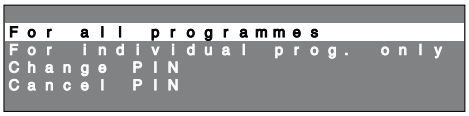
1 Perform steps **1** to **3** in **[1] Defining a PIN** to display the PIN input screen.

2 Input your four-digit PIN (e.g. 1234) with **0–9**.



- When the PIN is correctly input, the “Child lock” screen is displayed.

3 Press ▲/▼ to select “For all programmes”, and press **OK**.



4 Press ▲/▼ to select “Yes”, and press **OK**.
- The lock remains effective until “No” is selected.

5 Press **END** to exit.

To set a Child Lock for individual programmes

1 Perform steps **1** and **2** in **[2] Setting a Child Lock** to display the “Child lock” screen.

2 Press ▲/▼ to select “For individual prog. only”, and press **OK**.

3 Press ▲/▼/◄/► to select the desired programme.

4 Press **OK** to lock the programme.
- The locked programme is displayed in red.

NOTE
- To unlock the programme, select the locked programme, and press **OK**.
- The Child lock remains effective until it is cancelled.

5 Press **END** to exit.

[3] Changing/Cancelling a PIN

To change a PIN

1 Perform steps **1** and **2** in **[2] Setting a Child Lock** to display the “Child lock” screen.

2 Press ▲/▼ to select “Change PIN”, and press **OK**.

3 Input the new four-digit PIN (e.g. 5678) with **0–9**, and press **OK**.

4 Press **END** to exit.

To cancel a PIN

1 In step **2** above, press ▲/▼ to select “Cancel PIN”, and press **OK**.

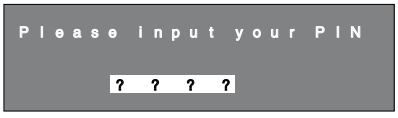
2 Press ▲/▼ to select “Yes”, and press **OK**.

[4] Temporarily cancelling the Child Lock setting

You can view a programme for which a Child lock has been set by temporarily cancelling the Child lock setting. Perform the procedure below to input your PIN and cancel the Child lock if you are prompted to do so.

When the PIN input screen is displayed, input your PIN with **0–9**.

- The normal screen appears when the PIN is correctly input.



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Useful features

Still image

You can freeze a motion picture on the screen.

1 Press .

2 Press again to exit still image.

NOTE
- When this function is not available, “No still image display available.” will display.
- The still image automatically goes out after 30 minutes.

Using the Programme Table

The Programme table shows a list of all receivable programmes. They are located in channels 1 to 99.

To select the desired programme

1 Press **OK** to display the Programme table.

2 Press ▲/▼/◄/► to select the desired programme.
- To display the next or previous list of the Programme table, press ▲/▼ when the cursor is at a programme in the lower-right or upper-left position, or press ◄/► when the cursor is at a programme in the right or left column.

3 Press **OK** to display the selected programme.

Teletext function

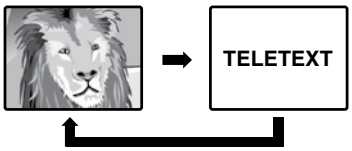
What is Teletext?

Teletext broadcasts pages of information and entertainment to specially equipped television sets. Your TV receives Teletext signals broadcast by a TV network, and decodes them into graphical format for viewing. News, weather and sports information, stock exchange prices and programme previews are among the many services available.

Turning on and off Teletext

1 Select a TV channel or external input source providing the Teletext programme.

2 Press to display the Teletext.
- Each time you press , the screen switches as shown below.



- If you select a programme with no Teletext signal, “No teletext transmission” displays.
- The same message displays during other modes if no Teletext signal is available.

Button functions

Buttons	Description
P (∧/∨)	Increase or decrease the page number.
Colour (Red/ Green/Yellow/ Blue)	Select a group or block of pages displayed in the coloured brackets at the bottom of the screen by pressing the corresponding **Colour (Red/Green/Yellow/Blue)** on the remote control unit.
0–9	Directly select any Teletext page from 100 to 899 by using **0–9**.
(Top/ Bottom/Full)	Switch the Teletext image to Top, Bottom or Full.
(Reveal hidden Teletext)	Reveal or hide hidden information such as an answer to a quiz.
(Hold)	Stop updating Teletext pages automatically or release the hold mode.
(Subtitle for Teletext)	Display the subtitle or exit the subtitle screen. • Subtitle will not be displayed when the service does not contain the subtitle information.
(Subpage)	Reveal or hide subpages. • Red button: Move to the previous subpage. • Green button: Move to the following subpage. • These two buttons are shown on the screen by the signs – and +.
OK	Display the Index page.

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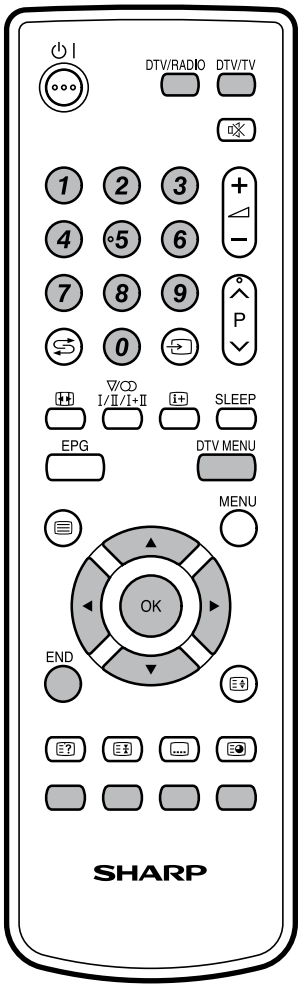
DTV menu operations

DTV menu operation buttons

Use the following buttons on the remote control unit to operate the DTV Menu.



DTV/TV: Switch between analogue TV and DTV mode.

0 - 9: Aside from direct channel entry, each of the **1** - **8** numeric buttons have a unique function assigned in the Channel Organizer screen.

DTV/RADIO: Press to switch between DTV and RADIO mode.

DTV MENU: Press to open the DTV Menu screen or return to the previous step.

▲/▼/◄/►: Press to select a desired item on the screen or adjust a selected item.

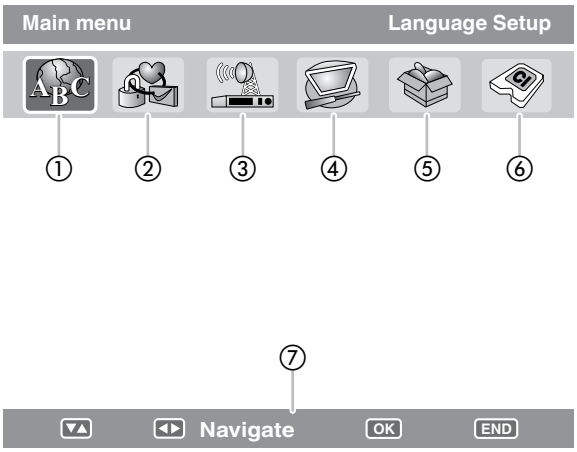
OK: Press to go to the next step or complete the setting.

END: Press to exit the DTV Menu screen.

Colour: Each of the coloured buttons have a unique function assigned in the menu screen.

DTV On-Screen Display

Example



① **Language Setup**
- To customise the language preference for Menu, Audio, Subtitle and Digital Service application.

② **Channel Organizer**
- To configure various settings for each service. These include: Fav (Favourite), Lock, Skip, Go To, Delete, Rename, Move, Move To and View functions.

③ **Installation**
- To scan all services available in your area, or to Rename/Delete/Rescan the selected carrier.

④ **System Configuration**
- To configure On-Screen Display and Password Setup settings.
- If the broadcast contains the Time zone region, you can select “Time zone” menu on “System Configuration” menu and you can set the Time zone.

⑤ **Technical Information**
- To display the current Version of the Hardware and Software.

⑥ **Common Interface**
- To display the current Common Interface details.

⑦ **Navigation buttons**
- To navigate within the DTV Menu screen.

DTV common operations

DTV common menu operation

① Press **DTV/TV** to access the DTV mode.

② Press **DTV MENU** and the DTV Menu screen displays.

③ Press ▲/▼/◄/► to select the desired menu, and then press **OK**.
- From this point, menu operations differ depending on the item you are going to adjust. See the respective section of the menu operation.
- Press **DTV/RADIO** to switch between DTV and Radio mode.

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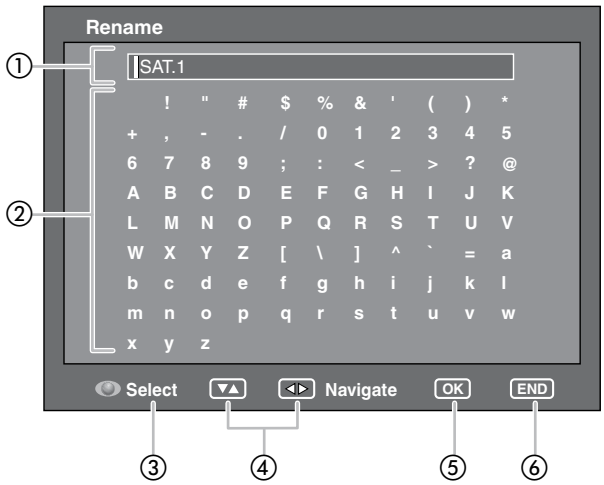
About using the character set screen

In some cases you may be prompted to enter characters. See below for details.

Sample Alpha Numerical Character Set screen



① **Input area**

② **Character select area**

③ **YELLOW (Select)** button
Press to move between the input area and character select area.

④ **▲/▼/◄/►** button
Press to move the cursor.

⑤ **OK** button
While in the input area:
Confirms the new name.
Once **OK** is pressed to confirm, a confirmation message displays.
Press ◄/► to select “Yes”, and then press **OK**.
While in the character select area:
Confirms the input of a character.

⑥ **END** button
Press to exit the DTV Menu screen.

Language Setup

Select language settings for Menu, Audio or Subtitle (if a programme is broadcast in more than one language) and Digital Service.

1 Press **OK** while the cursor is on “Language Setup”.

2 Press ▲/▼ to select “Menu Language”, “Pref. Audio Language”, “Pref. Subtitle Language” or “Pref. Digital Service Language”.
- If you have already selected a language during “Initial auto installation” (see page 8) or on the “First installation” menu (see page 12), “Menu Language” is automatically set to the one selected.

3 Press ◄/► to select a desired language for each item.

4 Press **END** or **OK**.

NOTE
- See page 12 to change the language displayed on-screen.
- See page 26 to change the subtitle language.
- See page 25 for details on the Digital Service.
- If “Sweden” was selected on the “First installation (Country)” screen, two languages are displayed for each item and the first selected language has priority. The language output depends on the languages contained in the broadcast.

Available language list

Dutch	Polish
English	Portuguese
Finnish	Russian
French	Spanish
German	Swedish
Greek	Turkish
Italian	Welsh*
	Gaelic*

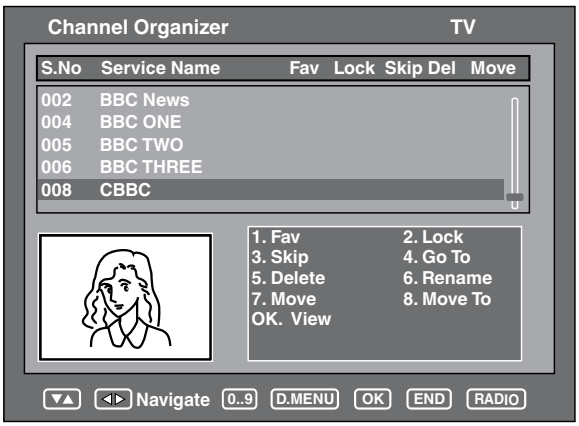
* Languages available only for Digital Service

Channel Organizer

Configure various settings for each service. Press the preassigned **1** - **8** numeric buttons to access each of the functions explained below.

Press **OK** while the cursor is on “Channel Organizer” in the Main menu.

Sample Channel Organizer screen



NOTE
- The picture window shows a blank image if Radio services are listed.

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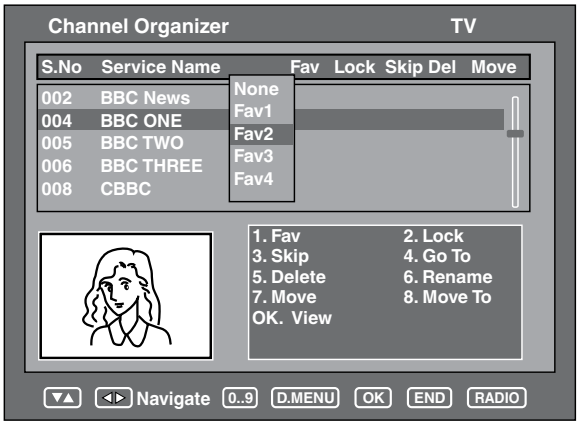
Fav (Favourite)

Assign services to four different favourite groups.

1 Press ▲/▼ to select the desired service.

2 Press **1** on the remote control. A selection box displays.

3 Press ▲/▼ to register the selected service to any of the four favourite groups (None, Fav1 ... Fav4) and then press **OK**. An icon displays indicating the favourite status.



4 Press **DTV MENU**.

5 Now you can easily select your favourite service from the Channel List. (See page 25.)

NOTE

- You cannot register the same service to two different favourite groups.

Lock

When the service is locked, you must enter your PIN whenever you tune to the service.

1 Press ▲/▼ to select the desired service.

2 Press **2** on the remote control.
If you already set the PIN, enter it here. If not, enter the factory preset PIN "0000".
An icon displays indicating the service is locked.
- Pressing **2** will turn the lock icon on and off. (PIN entry is required.)

3 Press **DTV MENU**.

NOTE

- See page 22 for setting the PIN.

Skip

Services that are set to skip will not be picked up when pressing **P (∧/∨)**.

1 Press ▲/▼ to select the desired service.

2 Press **3** on the remote control. An icon displays indicating the service to be skipped.
- Pressing **3** will turn the skip icon on and off.

3 Press **DTV MENU**.

NOTE

- To view services that are set to be skipped, use **0** - **9** numeric buttons or select from the Channel List.

Go To

Use this function to jump to the specific service in one step. This is useful when there are many services displayed on screen to scroll through.

1 Press **4** on the remote control. Now you can change the service number on the left side of the screen.

2 Enter the number using **0** - **9** numeric buttons, and then press **OK**. The highlight moves to the selected service.

Delete

Delete the selected service(s) from the memory.

1 Press ▲/▼ to select the desired service.

2 Press **5** on the remote control. An icon displays indicating the service to be deleted.
- Pressing **5** will turn the delete icon on and off.

3 Press **DTV MENU**.
- A confirmation message displays.

4 Press ◄/► to select "Yes", and then press **OK**.

Rename

Change individual service names.

1 Press ▲/▼ to select the desired service.

2 Press **6** on the remote control. A character set screen displays.

3 Enter new name for the service. See page 18 for operations using the character set screen.

4 Press **OK**.
- A confirmation message displays.

5 Press ◄/► to select "Yes", and then press **OK**.

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Move

Sort the order of the selected service by moving the service position.

1 Press ▲/▼ to select the desired service.

2 Press **7** on the remote control. An icon displays indicating the service to be moved.
- Pressing **7** will turn the move icon on and off.

3 Move the selected service to the desired position using ▲/▼, and then press **OK** to register the change.

Move To

Sort the order of the selected service by modifying the service number.

1 Press ▲/▼ to select the desired service.

2 Press **8** on the remote control. Now you can change the service number on the left side of the screen.

3 Enter the number using **0 - 9** numeric buttons, and then press **OK**. The service moves to the new position.

NOTE
- If on the "First installation (Country)" screen "UK" is selected, "Move To" cannot be used in U.K.

View

Change to the service shown in the picture window.

1 Press ▲/▼ to select the desired service.

2 Press **OK** on the remote control.
- The image shown in the picture window changes.

3 Press **END** to exit the Channel Organizer screen to view the image in full screen.

Installation

This section describes how to reconfigure the DTV settings after conducting **Initial auto installation** on page 8.

Auto Scan

The TV automatically detects and stores all available services in your area.

1 Press ◄/► to select "Installation".

2 Press ▲/▼ to select "Auto Scan", and then press **OK**.
- A confirmation message displays.

3 Press ◄/► to select "Yes", and then press **OK**.
- The TV starts scanning all available DTV and radio services in your area.

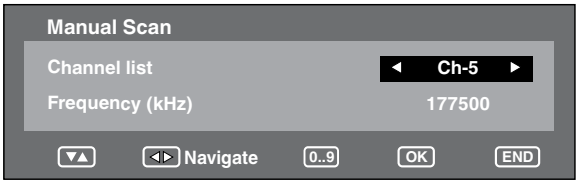
NOTE
- To cancel the scan in progress, press **END**.

Manual Scan

Manually add a new carrier by entering the desired carrier number or frequency band.

1 Press ◄/► to select "Installation".

2 Press ▲/▼ to select "Manual Scan", and then press **OK**.



3 Press ▲/▼ to select "Channel list", then ◄/► to enter the carrier number, and then press **OK**.
- The frequency of the selected carrier in the below cell changes correspondingly.

4 After the scan is complete, the screen shows all available services for the selected range.
- A confirmation message displays.

5 Press ◄/► to select "Yes", and then press **OK**.

NOTE
- If "Sweden" is selected on the "First installation (Country)" screen, the "Frequency (kHz)" cannot be used.

When the Country is set to Sweden in the "First installation (Country)"

When there is a Channel List in the data after Auto Scan or Manual Scan, Channel Type Selection Menu will be displayed and available to set Channel List Type.
Select the Channel List Type by pressing ◄/► and press **OK**.

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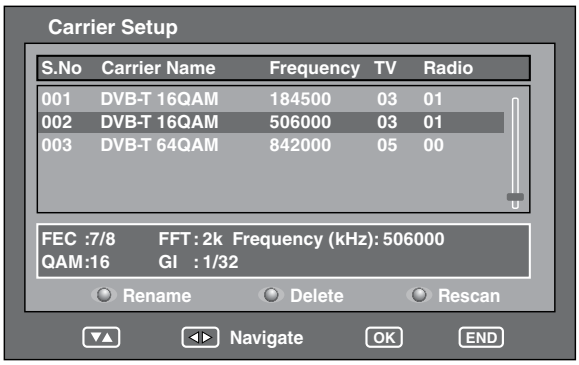
Carrier Setup

This is provided for you to rename (label), delete, or re-scan carriers. “Carrier” in this context refers to a service station that provides a set of individual services.

1 Press ◄/► to select “Installation”.

2 Press ▲/▼ to select “Carrier Setup”, and then press **OK**.



① **To rename the selected carrier:**
Select the carrier, and then press **RED** (Rename).
The character set screen displays.
Enter a new name for the carrier. See page 18 for details on using the character set screen.
Press **OK**.
A confirmation message displays.
Press ◄/► to select “Yes”, and then press **OK**.

② **To delete the selected carrier:**
Select the carrier, and then press **GREEN** (Delete).
An icon displays indicating the carrier to be deleted.
Pressing **GREEN** will turn the delete icon on and off.
Press **OK**.
A confirmation message displays.
Press ◄/► to select “Yes”, and then press **OK**.

③ **To re-scan the selected carrier:**
Select the carrier, and then press **BLUE** (Rescan).
Re-scanning starts.
A confirmation message displays.
Press ◄/► to select “Yes”, and then press **OK**.

NOTE

- If “Sweden” is selected on the “First installation (Country)” screen, “Data” is displayed on the “Carrier Setup” screen.

System Configuration

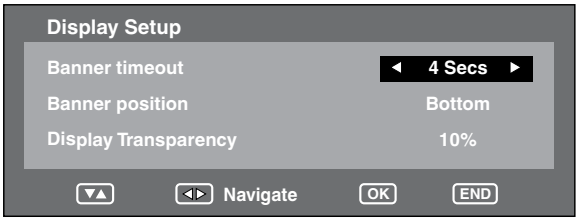
Configure On-Screen Display and Child Lock settings.

Display Setup

The On-Screen Display appearance and the position/duration of the service banner information can be customised.

1 Press ◄/► to select “System Configuration”.

2 Press ▲/▼ to select “Display Setup”, and then press **OK**.



3 Press ▲/▼ to select the desired item.

4 Press ◄/► to select the desired parameter, and then press **END**.

OSD Setup items	Selectable items	Description
Banner timeout	**1 Sec/2 Secs/ ... 7 Secs**	Select how long the service banner information appears on screen.
Banner position	**Top/Bottom**	Select whether the service banner information appears on top or bottom of the screen.
Display Transparency	**None/10%/20%/ ...50%**	Select the desired level of On-Screen Display transparency.

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Password Setup (Parental Lock)

This function allows TV and Radio services to be restricted. It prevents children from watching violent or sexual scenes that may be harmful.

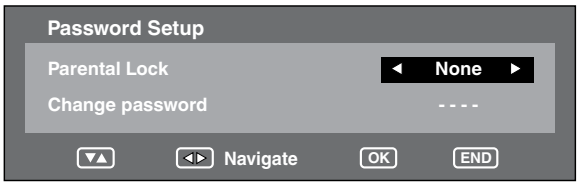
1 Press ◄/► to select “System Configuration”.

2 Press ▲/▼ to select “Password Setup”, and then press **OK**.

3 If you already set the PIN, enter it here. If not, enter the factory preset PIN “0000”.

4 Press ▲/▼ to select “Parental Lock”.

5 Press ◄/► to select the desired age/rating (4 ...18/None).



6 Press ▲/▼ to select “Change password”.

7 Enter the 4-digit number as a PIN using **0** – **9**.

8 Enter the same 4-digit number as in step 7 to confirm.
- “Successfully updated” displays.

9 Press **END**.

NOTE
- To view a locked channel, you must enter a PIN. When you select a locked channel, a PIN prompt message pops up. Enter the 4 digit number using **0–9**.
- **As a precautionary measure, make a note of your PIN on the back of this operation manual, cut it out and keep it in a safe place that children cannot reach.**
- **See page 31 for resetting the current PIN to the factory preset “0000” if you lose or forget your PIN.**

Technical Information

Check the version information of the digital module and allow it to be upgraded (when available).

Version

Check the version information of the digital module.

1 Press ◄/► to select “Technical Information”.

2 Press ▲/▼ to select “Version”, and then press **OK**.
- The hardware and software versions are displayed.

Software upgrade

The software for controlling the built-in DTV decoder can be upgraded when necessary. In Great Britain this can be achieved via an Over Air Download.

Preparation
Confirm and make a note of the current software version number as in step 2 of Software Version.

Manual upgrade

1 Press ◄/► to select “Technical Information”.

2 Press ▲/▼ to select “Software upgrade”, and then press **OK**. The TV checks all carriers if there is a new software available for upgrade.
① **If upgrade via Over Air Download is available at the time:**
A confirmation message appears asking you to accept the upgrade or not.
To download now, press ◄/► to select “Yes”, and then press **OK**. After the upgrade is completed, the TV restarts automatically with the new software version installed.
To postpone the download, press ◄/► to select “No”, and then press **OK**. Enter the download time for more convenient time as instructed.
The software upgrade will not be carried out if there is no new software available at the specified download time.
② **If upgrade via Over Air Download is NOT available at the time:**
A message tells you that there is no software available to be downloaded.

3 Check the new software version number to confirm the successful upgrade.

Auto upgrade

1 When you tune to the service that provides the upgrade via Over Air Download, a confirmation message displays.

2 Follow the screen prompts.

3 Check the new software version number to confirm the successful upgrade.

NOTE
- To scan all carriers for upgrade availability, perform the manual upgrade.
- The software upgrade may take about 30 minutes, but may take longer (up to 1 hour) depending on the signal status. While updating, you can switch to TV or external input mode or enter standby mode using ⏻/| on the remote control unit.

CAUTION
- **Do not disconnect the AC cord when the software upgrade is in progress, as this may cause the upgrade to fail. If problem arises ask a qualified service personnel before the software upgrade period expires.**

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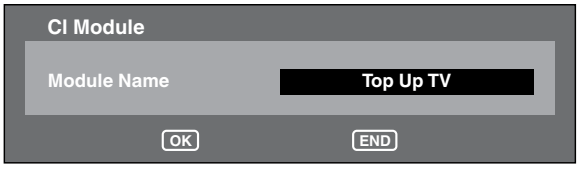
Common Interface

Check the detailed information on the Common Interface module card in use.

1 Press **OK** while the cursor is on “Common Interface”.
- The CI module name is displayed.

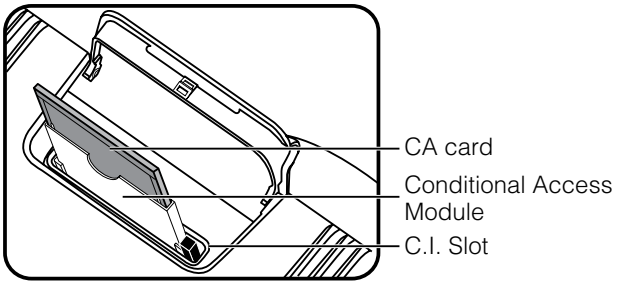


2 Press **OK** to access the CI menu.
- Detailed information on the CI card in use is displayed.

3 Press ▲/▼ to select the item, and then press **OK**.
- Detailed information on the selected item is displayed.

Inserting a CA card

A single DVB Common Interface (CI) slot is provided to allow adoption of a Conditional Access (CA) system by means of a plug-in CA module. Scrambled Broadcasting service can be routed via the CA system.
To allow the use of smart-card type CA system, a Conditional Access Module (CAM) is required. This should be obtained along with the CA card at the time of purchase. Please follow the service provider’s instructions to activate the card.



When the compatible card is not inserted:

① Select the programme which needs the compatible CA card.
- The caution screen appears.

② Insert the compatible CA card.
- The caution screen disappears and you can view the programme.

CA system supported by

Crypto Works
Aston CAM
VIAccess
Nagra Vision
Irdeto
MR CAM

NOTE
- To view paid TV broadcasting, you need to make a contract with a service provider.
  Please contact a service provider for details.
- The Common Interface Module and the CA card are neither supplied nor optional accessories.
- Leaving your CA card inserted does not affect free to view channels.

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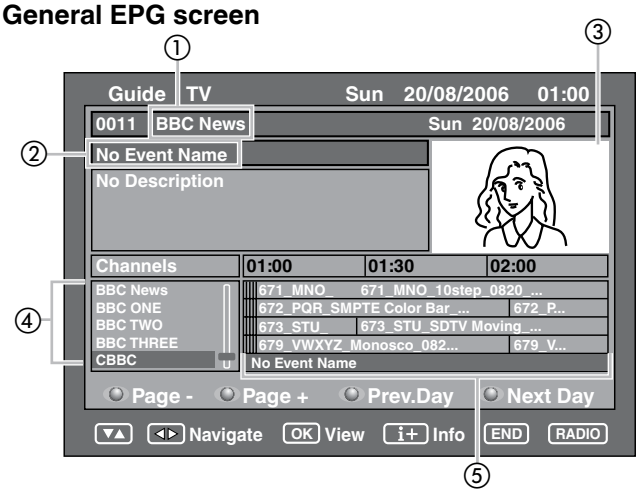
Useful features (DTV)

About EPG

With the Electronic Programme Guide (EPG), you can check the schedule of DTV and Radio events, view detailed information about them, tune to an event currently on-air and set a timer for future events.

General EPG screen



① **Service name**

② **Event name**

③ **Picture window**

④ **Service list**
- Shows the list of all services currently available. As you scroll down the list, the rows in the Event name list on the right will be refreshed correspondingly.

⑤ **Event name list**
- Shows the names of current events in a grid of rows and columns. You can check scheduled event information up to several days ahead, depending on conditions.

Using the EPG

1 Press **EPG**.
- Pressing **DTV/RADIO** will switch between DTV and Radio mode.

2 Press ▲/▼/◄/► to access the desired service or event.
- The image shown in the picture window changes.

In the Service list:

①Press ▲/▼ to scroll the page up/down. Or,

②Press **RED** (Page –) or **GREEN** (Page +) to skip to the previous/next page in one step.

In the Event name list:

①Press ◄/► to scroll the page left/right. Or,

②Press **YELLOW** (Prev.Day) or **BLUE** (Next Day) to skip to the previous/next day in one step.

3 To watch an event currently on-air, press **OK**.
- The "OK" button of Navigation buttons will be displayed as "OK View" when the cursor is selecting an event currently on-air, and other than this will display "OK Timer".
- The TV will show the image in full screen.
- Selecting an event that has not yet started will activate the EPG Timer mode instead.

NOTE
- Pressing i+ opens the EPG Description screen that provides more information about the selected event. Press i+, **OK** or **END** to exit.

Using the EPG Timer

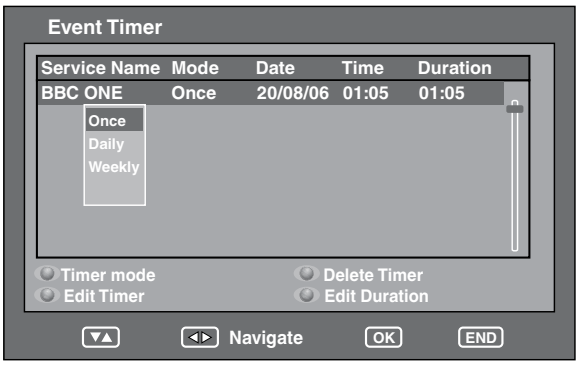
When the Timer is set, the TV automatically tunes to a preset TV event when its on-air time begins.

1 Press **EPG**.

2 Press ▲/▼/◄/► to select the desired event to be preset from the Event name list, and then press **OK**.
- Select an event not yet started.
- A confirmation message displays.

3 Press ◄/► to select "Yes", and then press **OK**.

4 Press **RED** (Timer mode), and then press ▲/▼ to select the desired parameter ("Once", "Daily" or "Weekly"), and then press **OK**.



NOTE
- If using this function for recording, make sure to set the timer of your recording equipment as well.
- Do not switch channels while recording using this function.
- This function cannot be set for locked services or when Parental lock applies. (See pages 19 and 22.)
- Up to 8 events can be preset using the Timer function.
- You can choose whether or not the screen switches on when the timer event begins. See **Rec screen status** on page 14. This is so that if you are using the timer to make a recording to your VCR or other device, the TV screen will not switch on unless you want it to.
- If you are watching another event, an alarm message displays on the screen a few seconds before the preset time.
- To cancel the preset, select the event to delete, press **GREEN** (Delete Timer), press ◄/► to select "Yes", and then press **OK**.
- An alert message displays when the preset events overlap one another.

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Changing the start time of the Event

1 Select the start time of the event to change and press the **YELLOW** (Edit Timer).

2 Change the start time with ▲/▼ and press **OK**.

NOTE
- You cannot hasten the start time from the original start time of the Event.
- You cannot set with the same date and time of another Event.

Changing the time duration of the Event

1 Select the time duration of the event to change and press the **BLUE** (Edit Duration).

2 Change the time duration with ▲/▼ and press **OK**.

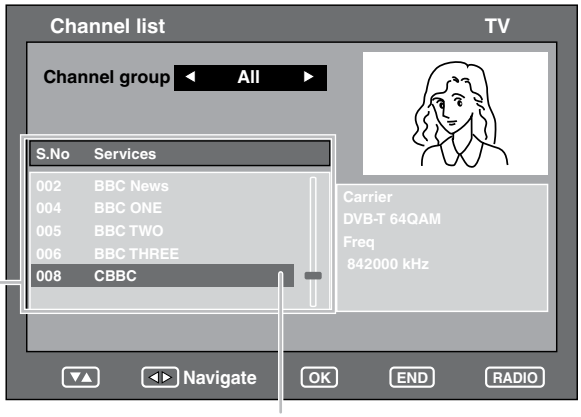
Displaying the stored timer events

1 Press **EPG** twice.
- You can confirm and edit the stored timer events.

Using the digital channel list

Select services by using the Channel list instead of using **0** - **9** numeric buttons or **P (∧/∨)**.

1 Press **OK** when no other menu screen is displayed.



Currently tuned service Service shown in picture window

2 The screen shows the service list in either TV or Radio mode sorted by favourite type (All, Fav1 - 4) as configured in page 19.

3 Press ▲/▼ to select the desired service, and then press **OK**.
- The image shown in the picture window changes.

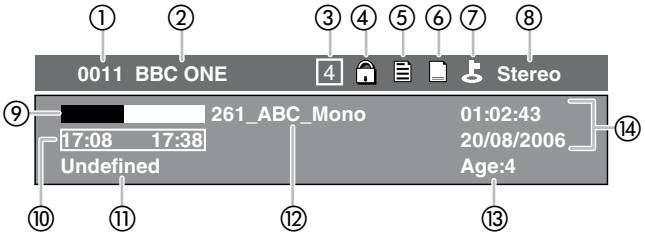
4 Press **END** to exit the Channel list to watch the image in full screen.

Viewing a service banner

A service banner shows event names, start/end time of event, and other useful information.

1 Press i+.

Service banner



① **Service No.**
② **Service name**
③ **Channel group (Favourite)**
④ **Lock status**
⑤ **DVB Teletext available**
⑥ **DVB Subtitle available**
⑦ **Pay TV**
⑧ **Audio mode**
⑨ **Duration graph**
⑩ **Starting time/Ending time of current programme**
⑪ **Genre**
⑫ **Programme name**
⑬ **Parental rating**
⑭ **Time and date**

2 To display more detailed information, press i+ again.
- You can verify the signal strength and quality of the selected service here.
- When the Country setting has been set to Sweden, press i+ once more to display the advanced detailed information.

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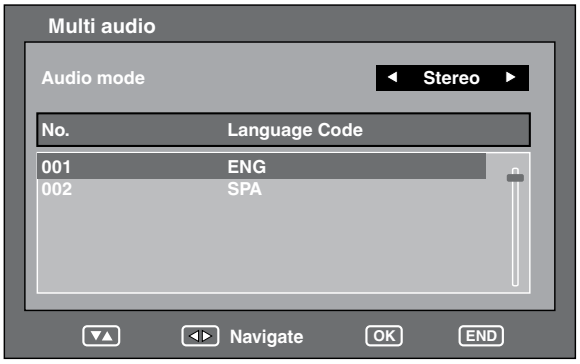
Using the multi audio function

Change the audio mode and language for the currently viewed service.

1 Press I/II/I+II when no other menu screen is displayed.



2 Press ◄/► to select the desired audio mode (Left, Right, L+R, Stereo), and then press ▼ to move down.

3 Press ▲/▼ to select the desired language available for the service, and then press **END**.

NOTE

- Once you tune to another service or the power is turned off, the setting returns to the parameter set in the Language Setup menu (page 18).

Displaying subtitles

Set the desired language for the subtitle display and enable/disable the subtitle display.

1 Press when no other menu screen is displayed.

2 Press repeatedly to select desired subtitle language in available languages.

- To turn off the subtitles, select “Off”.

NOTE

- The subtitle may not be displayed depending on the broadcast.

Using the Digital Service (UK only)

Some services bring you programmes with the Digital Service, letting you experience DTV interactively.
When provided, the Digital Service will start when you press .

Sample Digital Service screen

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Appendix

PC compatibility chart

Resolution		Horizontal Frequency	Vertical Frequency	VESA Standard
VGA	640 × 480	31.5 kHz	60 Hz	✓
SVGA*	800 × 600	37.9 kHz	60 Hz	✓

* We recommend that the output setting from the PC be set to VGA as SVGA will produce less than optimal viewing quality.

VGA and SVGA are registered trademarks of International Business Machines Co., Inc.

NOTE

- This TV has only limited PC compatibility, correct operation can only be guaranteed if the video card conforms exactly to the VESA 60Hz standard. Any variations from this standard will result in picture distortions.

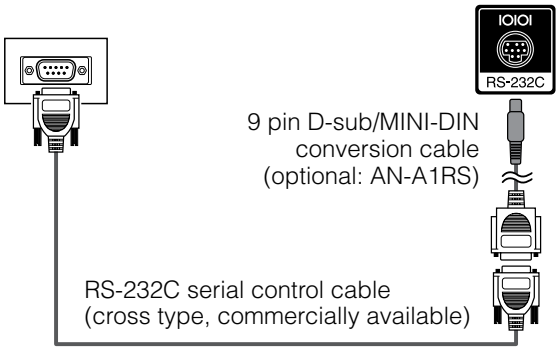
RS-232C port specifications

PC Control of the TV

- When a programme is set, the TV can be controlled from the PC using the RS-232C terminal.
  The input signal (PC/video) can be selected, the volume can be adjusted and various other adjustments and settings can be made, enabling automatic programmed playing.
- Attach an RS-232C cable cross-type (commercially available) to a 9 pin D-sub/MINI-DIN (optional: AN-A1RS) for the connections.

NOTE

- This operation system should be used by a person who is accustomed to using PCs.



Communication conditions

Set the RS-232C communications settings on the PC to match the TV's communications conditions.
The TV's communications settings are as follows:

Baud rate:	9,600 bps
Data length:	8 bits
Parity bit:	None
Stop bit:	1 bit
Flow control:	None

Communication procedure

Send the control commands from the PC via the RS-232C connector.
The TV operates according to the received command and sends a response message to the PC.
Do not send multiple commands at the same time.
Wait until the PC receives the OK response before sending the next command.

Command format

Eight ASCII codes + CR

C1	C2	C3	C4	P1	P2	P3	P4	↵

Command 4-digits Parameter 4-digits Return code

Command 4-digits: Command. The text of four characters.
Parameter 4-digits: Parameter 0 – 9, ×, blank, ?

Parameter

Input the parameter values, aligning left, and fill with blank(s) for the remainder. (Be sure that four values are input for the parameter.)
When the input parameter is not within an adjustable range, "ERR" returns. (Refer to "Response code format".)

0			
0	0	0	9
–	3	0	
1	0	0	
0	0	5	5

When "?" is input for some commands, the present setting value responds.

?			
?	?	?	?

Response code format

Normal response

O	K	↵

Return code (0DH)

Problem response (communication error or incorrect command)

E	R	R	↵

Return code (0DH)

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Appendix

Commands

CONTROL ITEM	COMMAND				PARAMETER				CONTROL CONTENTS
POWER SETTING	P	O	W	R	0	_	_	_	POWER OFF (STANDBY)
INPUT SELECTION A	I	T	G	D	_	_	_	_	INPUT SWITCHING (TOGGLE)
	I	T	V	D	_	_	_	_	TV (CHANNEL FIXED)
	I	D	T	V	_	_	_	_	DTV (CHANNEL FIXED)
	I	A	V	D	1	_	_	_	EXT1
	I	A	V	D	2	_	_	_	EXT2
	I	A	V	D	3	_	_	_	EXT3
	I	A	V	D	4	_	_	_	PC
	I	A	V	D	?	?	?	?	1 to 4
CHANNEL	D	C	C	H	*	*	_	_	TV DIRECT CHANNEL (00 to 99)
	D	C	C	H	?	?	?	?	00 to 99
	C	H	U	P	_	_	_	_	CHANNEL UP
	C	H	D	W	_	_	_	_	CHANNEL DOWN
	D	T	V	D	*	*	*	_	DTV DIRECT CHANNEL (001 to 999*)
	D	T	V	D	?	?	?	?	001 to 999*
	D	T	U	P	_	_	_	_	DTV CHANNEL UP
	D	T	D	W	_	_	_	_	DTV CHANNEL DOWN
INPUT SELECTION B	I	N	P	1	0	_	_	_	EXT1 (CVBS)
	I	N	P	1	1	_	_	_	EXT1 (RGB)
	I	N	P	1	2	_	_	_	EXT1 (AUTO)
	I	N	P	1	?	?	?	?	0 to 2
	I	N	P	2	0	_	_	_	EXT2 (Y/C)
	I	N	P	2	1	_	_	_	EXT2 (CVBS)
	I	N	P	2	?	?	?	?	0 to 1
	I	N	P	3	0	_	_	_	EXT3
	I	N	P	4	0	_	_	_	PC
AV MODE SELECTION	A	V	M	D	0	_	_	_	AV MODE SELECTION (TOGGLE)
	A	V	M	D	1	_	_	_	STANDARD
	A	V	M	D	2	_	_	_	SOFT
	A	V	M	D	3	_	_	_	ECO
	A	V	M	D	4	_	_	_	USER
	A	V	M	D	5	_	_	_	DYNAMIC
	A	V	M	D	?	?	?	?	1 to 5
VOLUME	V	O	L	M	*	*	_	_	VOLUME (0 -50)
	V	O	L	M	?	?	?	?	0 to 50

CONTROL ITEM	COMMAND				PARAMETER				CONTROL CONTENTS
POSITION	H	P	O	S	*	*	*	_	H-POSITION PC (-30 to +30)
	H	P	O	S	?	?	?	?	PC (-30 to +30)
	V	P	O	S	*	*	*	_	V-POSITION PC (-10 to +10)
	V	P	O	S	?	?	?	?	PC (-10 to +10)
	C	L	C	K	*	*	*	_	CLOCK (0 to 180)
	C	L	C	K	?	?	?	?	0 to 180
	P	H	S	E	*	*	_	_	PHASE (0 to 40)
	P	H	S	E	?	?	?	?	0 to 40
WIDE MODE	W	I	D	E	0	_	_	_	WIDE MODE (Toggle)
	W	I	D	E	1	_	_	_	4:3
	W	I	D	E	2	_	_	_	16:9
	W	I	D	E	?	?	?	?	1 to 2
MUTE	M	U	T	E	0	_	_	_	MUTE (TOGGLE)
	M	U	T	E	1	_	_	_	MUTE ON
	M	U	T	E	2	_	_	_	MUTE OFF
	M	U	T	E	?	?	?	?	1 to 2
SOUND WIDE	A	C	D	V	0	_	_	_	SOUND WIDE (Toggle)
	A	C	D	V	1	_	_	_	SOUND WIDE ON
	A	C	D	V	2	_	_	_	SOUND WIDE OFF
	A	C	D	V	?	?	?	?	1 to 2
AUDIO CHANGE	A	C	H	A	_	_	_	_	SOUND SELECT (ST/ BILINGUAL/MONO)
SLEEP TIMER	O	F	T	M	0	_	_	_	OFF
	O	F	T	M	1	_	_	_	30 min
	O	F	T	M	2	_	_	_	60 min
	O	F	T	M	3	_	_	_	90 min
	O	F	T	M	4	_	_	_	120 min
	O	F	T	M	?	?	?	?	0 to 120
TEXT	T	E	X	T	0	_	_	_	TELETEXT OFF
	T	E	X	T	1	_	_	_	TELETEXT CHANGE (TOGGLE)
	T	E	X	T	?	?	?	?	0 to 1
	D	C	P	G	*	*	*	_	DIRECT PAGE JUMP (100 to 899)
	D	C	P	G	?	?	?	?	100 to 899

NOTE

- If an underbar (_) appears in the parameter column, enter a space.
- If an asterisk (*) appears, enter a value in the range indicated in brackets under CONTROL CONTENTS.

* If on the “First installation (Country)” screen “Sweden” is selected, input a 4-digit number 0001 to 9999.

Rating table for Child Lock

Broadcasted rating / User-adjusted rating	AGE														
	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Universal	✓	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Parental	✓	✓	✓	✓	✓	–	–	–	–	–	–	–	–	–	–
X-rated	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Broadcasted rating / User-adjusted rating	Universal	Parental	X-rated
Universal	–	–	–
Parental	✓	–	–
X-rated	✓	✓	–

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Troubleshooting

Problem	Possible Solution
• No power.	• Check if you pressed ⏻ on the TV. (See page 8.) If the indicator on the TV lights up red, press ⏻/| on the remote control unit. • Is the AC cord disconnected? (See page 3.) • Check if you pressed ⏻/| on the remote control unit. (See page 8.)
• Unit cannot be operated.	• External influences such as lightning, static electricity, etc., may cause improper operation. In this case, operate the unit after first turning the power off, or unplugging the AC cord and re-plugging it in after 1 or 2 minutes.
• Remote control unit does not operate.	• Are batteries inserted with polarity (+, –) aligned? (See page 4.) • Are batteries worn out? (Replace with new batteries.) • Are you using it under strong or fluorescent lighting? • Is a fluorescent light illuminating the remote control sensor?
• Strange colour, light colour, or dark, or colour misalignment.	• Adjust the picture tone. (See page 10.) • Is the room too bright? The picture may look dark in a room that is too bright. • Check the colour system setting. (See page 13.)
• Power is suddenly turned off.	• The unit's internal temperature has increased. Remove any objects blocking vent or clean. • Check the Auto power off setting. (See page 14.) • Is sleep timer set? Press **SLEEP** on the remote control unit until it sets to Off.
• No picture.	• Is connection to other components correct? (See page 7.) • Is input signal type selected correctly after connection? (See page 12.) • Is the correct input source selected? (See page 5.) • Is picture adjustment correct? (See page 10.) • Is the antenna connected properly? (See page 3.)
• No sound.	• Is the volume too low? (See page 5 and 6.) • Make sure that headphones are not connected. (See page 6.) • Check if you pressed 🔇 on the remote control unit. (See page 5.)
• The TV sometimes makes a cracking sound.	• This is not a malfunction. This happens when the cabinet slightly expands and contracts according to change in temperature. This does not affect the TV's performance.

Cautions regarding use in high and low temperature environments

- When the unit is used in a low temperature space (e.g. room, office), the picture may leave trails or appear slightly delayed. This is not a malfunction, and the unit will recover when the temperature returns to normal.
- Do not leave the unit in a hot or cold location. Also, do not leave the unit in a location exposed to direct sunlight or near a heater, as this may cause the cabinet to deform and the LCD panel to malfunction.
  Storage temperature: –20°C to +60°C.

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Specifications

Item				20" LCD COLOUR TV, Model: LC-20SD5E, LC-20SD5S
LCD panel				20" Advanced Super View & BLACK TFT LCD
Number of dots				921,600 dots (640 × 480 × 3 dots)
Video Colour System				PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60
TV Function	TV-Standard		Analogue	CCIR (B/G, I, D/K, L, L')
			Digital	DVB-T (2K/8K OFDM)
	Receiving Channel		VHF/UHF	E2–E69ch, F2–F10ch, I21–I69ch, IR A–IR Jch, (Digital: E5-E69ch)
			CATV	Hyper-band, S1–S41ch
	TV-Tuning System			Auto Preset 99 ch, Auto Label, Auto Sort
	STEREO/BILINGUAL			NICAM/A2
Brightness				430 cd/m²
Backlight life				60,000 hours (at Backlight Standard position)
Viewing angles				H : 170° V : 170°
Audio amplifier				2 W × 2
Speaker				71 mm × 30 mm
Terminals	Rear	Antenna input		UHF/VHF 75Ω Din type (Analogue & Digital)
		EXT1 (RGB)		SCART (AV input, RGB input, TV output)
		EXT2 (AV)		SCART (AV input/output, Y/C input, TV monitor output)
		EXT3		S-VIDEO (Y/C input), RCA pin (AV input)
		EXT4 (PC)		Ø 3.5 mm jack (Audio input), 15 pin mini D-sub (PC/Component)
		RS-232C		9 pin MINI-DIN male connector
		C. I. (Common Interface)		EN50221, R206001
		OUTPUT		RCA pin (Audio)
		Headphones		Ø 3.5 mm jack (Audio output)
OSD language				English/German/French/Italian/Spanish/Dutch/Swedish/Portuguese/Finnish/Turkish/Greek/Russian/Polish
Power Requirement				AC 220–240 V, 50 Hz
Power Consumption				74 W (1.0 W Standby) (Method IEC60107)
Weight				5.5 kg (Display only), 6.2 kg (Display with stand)
Operating temperature				0°C to +40°C

- As a part of policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviations from these values in individual units.

NOTE

- Refer to inside back cover for dimensional drawings.

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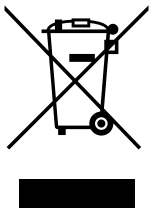
End of Life Disposal



Attention: Your product is marked with this symbol. It means that used electrical and electronic products should not be mixed with general household waste. There is a separate collection system for these products.

A. Information on Disposal for Users (private households)

1. In the European Union

Attention: If you want to dispose of this equipment, please do not use the ordinary dust bin!

Used electrical and electronic equipment must be treated separately and in accordance with legislation that requires proper treatment, recovery and recycling of used electrical and electronic equipment.
Following the implementation by member states, private households within the EU states may return their used electrical and electronic equipment to designated collection facilities free of charge*. In some countries* your local retailer may also take back your old product free of charge if you purchase a similar new one.
*) Please contact your local authority for further details.

If your used electrical or electronic equipment has batteries or accumulators, please dispose of these separately beforehand according to local requirements.

By disposing of this product correctly you will help ensure that the waste undergoes the necessary treatment, recovery and recycling and thus prevent potential negative effects on the environment and human health which could otherwise arise due to inappropriate waste handling.

2. In other Countries outside the EU

If you wish to discard this product, please contact your local authorities and ask for the correct method of disposal.

For Switzerland: Used electrical or electronic equipment can be returned free of charge to the dealer, even if you don't purchase a new product. Further collection facilities are listed on the homepage of www.swico.ch or www.sens.ch.

B. Information on Disposal for Business Users

1. In the European Union

If the product is used for business purposes and you want to discard it:

Please contact your SHARP dealer who will inform you about the take-back of the product. You might be charged for the costs arising from take-back and recycling. Small products (and small amounts) might be taken back by your local collection facilities.

For Spain: Please contact the established collection system or your local authority for take-back of your used products.

2. In other Countries outside the EU

If you wish to discard of this product, please contact your local authorities and ask for the correct method of disposal.

IMPORTANT NOTE ON RESETTING THE PIN

We suggest that you remove the following instruction from the operation manual to prevent children from reading it. As this operation manual is multilingual, we also suggest the same with each language. Keep it in a safe space for future reference.

IMPORTANT NOTE ON DISENGAGING ADVANCED CHILD LOCK (TV)

If you have forgotten your personal identification number and cannot disengage ADVANCED CHILD LOCK, follow the procedure below.
1. Press **MENU** to display the Menu screen.
2. Press ◄/► to select "Features".
3. Press ▲/▼ to select "Child lock", and press **OK**.
4. The PIN input menu is displayed.
5. Input "3001" with **0 - 9**, and press **OK**.
The Child lock setting menu is displayed.

ADVANCED CHILD LOCK will now be disengaged.

RESETTING THE PIN (DTV)

If you forget the PIN, reset the PIN.
1. Press and hold both **–** on the TV and press **3** on the remote control simultaneously for a few seconds.
The factory preset PIN for DTV is set to "0000".

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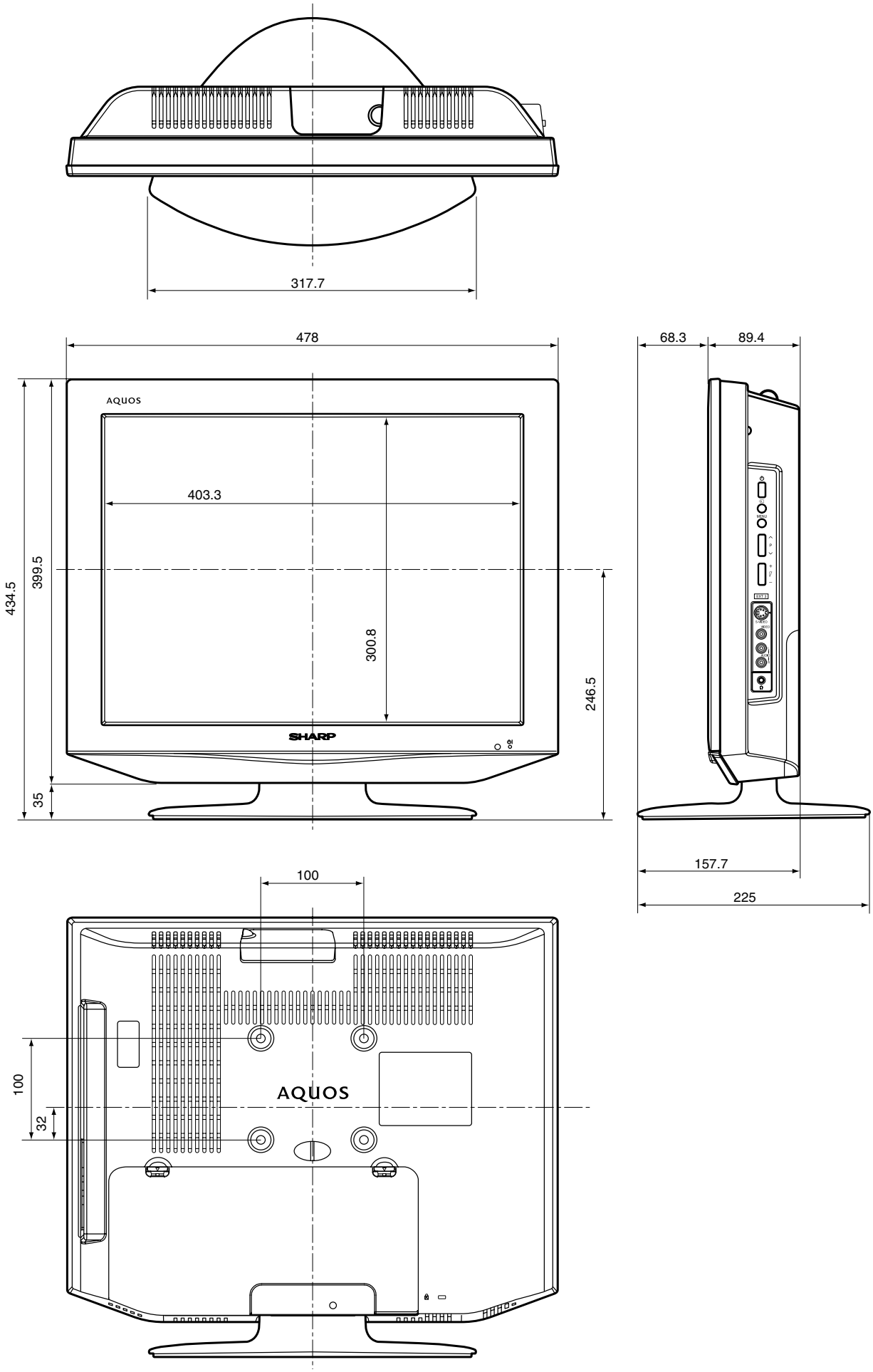
Unit: mm



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SHARP ELECTRONICS (Europe) GmbH
Sonnistraße 3, D-20097 Hamburg, Deutschland

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